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USSR Report

HUMAN RESOURCES

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LABOR

EXTENSIVE USE OF SUPPLEMENTAL LABOR CRITICIZED

Moscow SOTSIALISTICHESKIY TRUD in Russian No 9, Sep 84 pp 80-87

[Article by Candidate of Economic Sciences A. Brovin, Moscow Institute of National Economy imeni G.V. Plekhanov: "Supplemental Workers: Can We Do Without Them?"]

[Text] The practice of enlisting blue- and white-collar workers, engineering and technical personnel, scientific workers, students and school children from the cities to assist the kolkhozes and sovkhozes with the harvest and to work at fruit and vegetable bases, construction sites, in repair organizations and municipal services has become widespread in recent years. It would be difficult to assess the real scope of this development or the damage caused by it, since there is no planned basis for it and proper statistical records are not kept. This process is essentially developing spontaneously.

A supplemental worker is one who works temporarily in another organization (as a rule, not in his own field) with which he concludes a hiring agreement, and his wages are paid at his main job in the amount of his official salary rate or average earnings, which have nothing to do with the work actually performed. This accounts for the disorganization and poor productivity of their work. All of this affects labor discipline and nullifies the socialist principle of distribution on the basis of labor.

In addition to the social losses, a worker's separation from his main job also causes perceptible economic damage to the entire national economy. In the first place, all the labor outlays are not always considered or are not taken into full consideration in production costs at enterprises using supplemental workers. This distorts the main indicators for the enterprises. Labor productivity is exaggerated, and production costs are put too low. At the same time, the "appearance that all is well" with the production performance of enterprises using supplemental workers does not motivate them to eliminate the factors contributing to the need for additional manpower. In the second place, none of the wages paid to the supplemental workers at their main job (during the period of their enlistment for other work) are covered by commodities. Consequently, a disporportion develops in the area of circulation between the amount of money and the quantity of goods. This could be avoided by including their earnings in the production costs of those enterprises which enlist them to work. According to our calculations, the total amount of payments to enlisted workers reaches

several billion rubles a year. In the third place, the losses include also the products not received by the state, which could have been produced by the supplemental workers at their own jobs. In the fourth place, city transport is used to haul the supplemental workers to and from the job during the heavy fall harvest season. This disorganizes passenger service in the city. It makes it more difficult for blue- and white-collar workers to reach their enterprises and organizations, as a result of which there are more people arriving late, with all the consequences of that situation. Finally, the systematic removal of workers from their main job is forcing the directors of enterprises and organizations to engage in covert planning and to retain more workers on the staff than are actually needed according to the production plan.

Enterprises which have operated as part of the large-scale economic experiment since 1 January 1984 have experienced special difficulties. B. Fomin, general director of the Elektrosila Produciton Association, writes that "everything possible is now being done to produce more with fewer workers. And today we no longer have the reserve of workers which we retained 'just in case'..., and just whom are we to send to the sovkhoz in 1984, and at whose expense, when every person and every kopeck will be accounted for under the terms of the experiment?".*

The list of branches using the labor of supplemental workers is already fairly large: agriculture, construction, land reclamation, wholesale trade (fruit and vegetable offices), procurement offices, municipal services, the construction materials industry, road construction, urban landscaping, the baked-goods industry and others. The list of jobs performed by the supplemental workers is even more diversified.

What is the main factor forcing many enterprises to resort to the help of supplemental workers? In our view, it is a shortage of their own manpower relative to planned manpower needs. Disregarding instances of sluggishness and incompetence on the part of those in charge of individual enterprises and the imperfection of the planned incentive indicators for their work, which have contributed to the shortage of workers, we need to determine whether there are common causes typical for all the enterprises and sectors of the national economy using supplemental workers. I believe there are. A study of those types of jobs performed by supplemental workers shows that all of them require little-skilled, heavy physical or undesirable work. The enlistment of workers is therefore a part of the overall problem pertaining to physically and socially undesirable work.

Let us say at the outset that this problem is not an attribute of the socialist production system and not a specific feature of the current stage in the development of the USSR's economy. This is proved by the economic reality of the largest and most highly developed capitalist nations: the USA, the FRG, England and France. Even though the developed capitalist nations have an enormous group of unemployed, it is not easy for them to resolve this problem. In the USA, for example, most of the physically and socially undesirable jobs are performed by immigrants from Latin America or members of the Negro population: in England and France they are performed by workers from former colonies of those nations; and in the FRG they are performed by foreign workers from Turkey and Spain. The low level of economic development of the Central American nations and the former colonies in Africa and Asia, and the poverty of the popular masses produced by this, are forcing part of the able-bodied population to leave for the

*B.Fomin, "A Planned Basis, and Not a Private Contract," TRUD, 23 Dec 83.

developed capitalist nations, to agree to perform any kind of work and to accept jobs involving heavy labor, denial of their rights and other forms of exploitation. Deprived of citizenship, they are used by the capitalists as another means of applying pressure to the workers of their own nation.

In our nation, which is free of man's exploitation by man and where full employment is provided for the entire population, this problem is being resolved with extensive mechanization of those jobs and their gradual elimination. In certain sectors of the economy and at certain enterprises, however, primarily economic and material means are still being used to retain workers on physically and socially undesirable jobs, including such means as increased wages relative to the actual labor contribution (the application of excessive fixed rates, the raising of categories and rates, the payment of all sorts of bonuses and increases out of economic incentive funds, and so forth) and the providing of priviledges (priority consideration for apartments, registration, acceptance at pre-school facilities, and so forth). In many sectors, however, these incentives for retaining workers are not producing good results (fruit and vegetable offices, construction, production of construction materials, municipal services, and other branches), and a solution is therefore found in the enlistment of supplemental workers.

Two organizational forms of meeting needs for supplemental workers have now become the most widespread. The first (purely administrative) involves special requisitions by local agencies. These administrative measures are supplemented with an economic measure, a guarantee that the supplemental workers will retain their average earnings received for their main job, which makes it possible to interest them in moonlighting or at least to neutralize the negative attitude toward the practice of drawing workers away from their main job. This kind of worker enlistment has nothing to do with the main operation of the enterprises providing the supplemental workers.

The second form of drawing workers away from their main job is a result of production necessity on the part of enterprises and organizations. It occurs where the needs of the enterprises are not being satisfied fully, comprehensively or in good time. In this situation the consumer enterprise is frequently forced to agree to semi-self-service for satisfying the supplier's production needs for materials, finances and production equipment, and the manpower is partially or totally its own. The most common and typical example are relationships between a client and a construction organization. If a construction organization is to reconstruct a plant or build housing for some department, it would probably be difficult to find one which would not force the client "to help" it by providing manpower gratis. This form of enlisting workers could be called covert. It has already spread to relations between enterprises producing construction materials and the consumers of their output. The state is suffering a loss in the amount of the earnings of the supplemental workers and the bonuses received by the contractor (supplier).

In principle, the drawing of workers away from their main job out of production necessity is not in conflict with the economic laws of socialism. This practice indicates shortcomings in the planning, however, and is a sort of elemental mechanism for eliminating disproportions arising in the distribution of manpower resources, a way of eliminating deficiencies in labor organization and wages, and a singular solution to the problem of heavy and little-skilled labor.

It is at the same time a form of inter-departmental labor cooperation, which should obviously be supported and developed under the condition that it be regulated by plan and converted to strictly equivalent economic relations, taking not only bilateral interests, but most importantly, the common national interest into account.

The following also occurs. Some construction trust or some other enterprise in a city will fail to fulfill its production plan due to weak leadership, poor organization and labor discipline. In order to rectify the situation, the city agencies resort to the arbitrary recruitment of workers by means of special requisitions. In this case organizational and indoctrinational work in the collectives of the city or rayon enterprises to achieve the fulfillment of state plans is replaced with bureaucratic administration far removed from precise profit and loss accounting and pursuing purely localistic interests, which conflict with the state interests.

The "patching of management holes" at individual enterprises by using supplemental workers retards and even prevents mechanization and automation and the adoption of new production processes designed to thoroughly resolve the problem of heavy physical and undesirable work. This practice is affecting the adoption of progressive forms of organization and establishment of standards for labor. Here is an example. At the fruit and vegetable bases supplemental workers are frequently placed at packing, grading and other semi-automatic machines. Lacking special training and with the attitude of a temporary worker, these people frequently cause the equipment to break down, not deliberately but through ignorance. And this is not surprising. The automation and mechanization of these processes require permanent personnel.

The party and the government have raised the issue of supplemental workers more than once. Specifically, the decree passed by the CPSU Central Committee, the USSR Council of Ministers and the AUCCTU on 13 December 1979, "On the Further Strengthening of Labor Discipline and Reducing Personnel Turnover in the National Economy," stated the following: "Charge party, soviet, trade union and management agencies with preventing the unjustified enlistment of blue- and white-collar workers for various types of agricultural, construction, procurement and other work."

It was pointed out at a meeting of Moscow's party and management aktiv that this situation must be remedied. We need to disseminate the experience of a number of rayons in the manufacture of nonstandard equipment for mechanizing and automating the production processes at bases. We need to make more extensive use of recommendations from the city's scientists for creating optimal conditions for the storage of potatoes, vegetables and other products. We need to strive to reduce losses of fruits and vegetables. We need to gradually reduce and then totally eliminate the use of blue- and white-collar workers enlisted from the city's enterprises and organizations at the bases.

The question is therefore one of how to reduce the negative effects of this development. There can be no universal and simplified solution to such a complex problem, of course, because each branch of the national economy utilizing supplemental workers has its own specific features. It must be resolved at the interbranch level, however.

In our opinion, the entire system of measures aimed at eliminating the system of enlisting workers should be subdivided into centralized measures, the adoption of which would be the prerogative of All-Union directing agencies, and regional measures, which are under the jurisdiction of city, rayon or oblast authorities. In their systematized and ranked form centralized measures should include the mechanization and automation of labor-intensive processes and manual labor, the establishment of centralized planning and statistical reporting on supplemental workers, the drawing up of necessary laws governing the procedure for using enlisted workers, resolution of the question of fully repaying the supplier enterprises for the cost of providing manpower, the inclusion of those costs in the production costs of the consumer enterprises and finally, the increasing of rates for all operations involved in the harvesting and storage of fruits and vegetables to a level which assures adequate growth of labor productivity of their own workers and the necessary influx of workers from temporarily unemployed groups of the population.

Mechanization and automation of manual labor are strategic measures with the objective of eliminating the factors creating the need for supplemental workers. Their implementation involves considerable capital outlays and takes a long time, which could be significantly reduced by achieving outstripping growth of capital investments in scientific research and in the branches producing labor-saving machinery and technology.

The other measures to reduce the need for enlisted workers are basically of an organizational-normative nature, and their implementation does not require outlays or long periods of time. The effect from their realization can be considerable, however, and what is especially important, without implementing them it is impossible to effect comprehensive mechanization and automation of the labor-intensive processes. The planning and paying for the use of supplemental workers and the inclusion of the cost in production outlays will help to eliminate the spontaneous, unprofessional and unsubstantiated nature of the applications for them, and will do away with the eagerness of negligent managers to shift their own production failings onto the shoulders of "patrons." In addition, the source of funds entering monetary circulation not covered by commodities will be reduced by the amount of the wages paid to supplemental workers during their separation from their main job.

Many of the nation's managers advocate planning and paying for the use of supplemental workers. In an interview conducted for the newspaper PRAVDA, for example, USSR Minister of Electronics Industry A.I. Shokin made the following statement: "It would probably be incorrect to also switch onto the track of economic relations the enlistment of workers from Union enterprises for various types of agricultural jobs and construction projects, and to enterprises and organizations of local subordination. At the present time the enlistment of workers by decision of local authorities are not regulated in any way and are not planned, and it falls to the enterprises to pay for their labor. This produces lack of responsibility for the use of manpower and upsets the normal management conditions both at the enterprises themselves and in operations of territorial significance."* The rural area can still not get along without help from the city, of course. This assistance must be planned, however, and taken into account for working out the annual plan. The plan must include provisions for sending people to assist in the rural area during certain months in the spring, summer and fall.

*B. Fomin, "A Planned Basis, and Not a Private Contract," TRUD, 23 Dec 83.

In order to implement the principle of paying for the use of supplemental workers on the practical level, it is our view that an additional category of expenditures (a separate line: "Outlays for Supplemental Workers") should be added to the accounting documents at all those enterprises where supplemental workers are used for turning out the product. The consumer enterprises could then pay for their labor by two methods.

The first method involves the transfer of money by the consumer enterprises in accordance with statements submitted by the suppliers of the supplemental workers in the manner in which payments are made for products or services. The total amount would consist of the wages paid to the supplemental workers and the cost of transporting them to and from the job site. The addition of this item of production expenditure would help to establish records of the use of the services of supplemental workers and assure that those services are paid for (and this alone would regulate the practice of enlisting workers to a significant degree and would totally eliminate unjustified requests for them). It could not be called the ideal method, however, since a supplemental worker receives wages not for actual work performed and not where he performs the work. Separating wages from the specific job performed weakens the material incentive factor in the work and makes it difficult to monitor the amount of work performed.

The second method involves placing the supplemental workers in the same status as those of the organizations using them with respect to the use of their labor and payment for it. The crucial factor here is that documents will be filled out on the job placement of the supplemental workers and the wages paid to them. It is important to select those forms which are most convenient for the workers and assure that standard procedures are used for job placement and payment both for the organized enlistment of workers (those sent by planned procedure from other organizations) and those finding jobs on their own.

If these measures are put into effect, those people who count on having heavy and undesirable jobs performed by workers enlisted from other enterprises and organizations will have no choice but to replace them with either temporary or permanent workers. Other means must be used in additional to the traditional ones for this, however.

Raising the wage level for this category of workers is out of the question, of course, since the socialist principle of distributing the wealth among the workers dictates that only one system be used for increasing the wages of those taking part in production--the wage level must be directly proportionate to the quantity and quality of the work. We distort this principle by increasing wages, providing housing and so forth, however, in order to resolve the problem of the shortage of workers for jobs with undesirable working conditions.

Proposals made by certain specialists for using those groups of the population with a low educational and cultural level, who therefore have lower spiritual and social needs, to perform undesirable jobs also do not stand up under criticism. This ostensibly makes them less demanding with respect to type of work, and they could to some degree lessen the severity of the labor shortage in the occupations studied. At the present time, for example, the main thing motivating the rural population to migrate to the city are differences in the standard

of living, and not so much from the standpoint of material possibilities as the degree to which their spiritual and social needs are met and their options with respect to selecting fields of application for their labor. It is therefore perfectly understandable why there is such a rapid departure of (limitchiki) from undesirable jobs when they receive the sought-after necessities of life.

The total group of occupations involving physically or socially undesirable work includes, in the first place, those jobs which are not increasing in number or are increasing insignificantly and for the elimination of which technical and organizational ways can be found in the near future (most types of manually performed loading and unloading jobs) and in the second place, jobs which are increasing in number proportionate to the dynamics of the process creating them (the number of yard-tenders and janitors is growing at the same rate at which production area, housing, hotels, sanitoria, rest centers, schools, kindergartens and nurseries, hospitals and so forth are being built). The occupations of yard-tender and janitor are perhaps among the very few whose work has not undergone any sort of changes in hundreds of years. Rags and brooms are not being displaced by vacuum cleaners and floor-polishers. Consequently, the situation is not altering and most importantly, not reducing the number of workers employed at these jobs. The exceptional diversity of the objects of the work typical for the occupations of yard-tender and janitor is the stumbling block which is unlikely to be overcome by technical means in the near future.

Mechanization (and perhaps automation as well) of the work of yard-tenders, janitors, hospital attendants and other workers must be accelerated by investing additional money in scientific development projects. It is already difficult or simply impossible to fill vacancies in these fields by the old methods, however, since blue- and white-collar workers and students are most frequently hired to clean streets and buildings. In certain cities, however, every plant and organization is assigned streets and squares which it is required to keep clean. The use of supplemental workers is also not the solution.

In our opinion, there are two realistic organizational and economic ways to eliminate or reduce to a minimum the shortage in this group of workers and the need to hire workers to perform these jobs until such time as they are totally mechanized or automated. The first way is to universally switch from fixed wages and salaries for janitors, yard-tenders and hospital attendants to a piece-plus-bonus system of rates. Furthermore, the brigade labor organization and wage system in combination with aspects of the Shchekino method could be extended to cover workers in these occupations, including the combining of jobs and the enlarging of service areas with corresponding wage increases, especially since we already have some experience in this area.* If we also enlarge the area of work covered by the second job and combine the occupations of workers (blue- and white-collar workers, engineering and technical personnel, scientific workers and so forth), the manpower will mainly be obtained not at the expense of other sectors of the national economy which also have an acute shortage of workers, but from among temporarily unemployed students and pensioners.

The second way is not an alternative to or in competition with the first. It supplements the first way. All enterprises, plant administrations, scientific research institutes, design offices, main administrations, ministries and

*G. Klyucherov, "The Caprices of Instructions," TRUD, 3 Jun 84.

ispolkoms, in short, wherever it is not possible for one reason or another to hire the full complement of janitors, have no alternative but to assign the cleaning of the production areas to their other workers. The work must be paid for at the appropriate rates. The wages not being paid to a janitor, for example, are turned over to the team responsible for the cleanliness of the premises involved. It may dispose of the wages at its own discretion. Either a single worker will perform the job alone or everyone will perform it by turn.

The next group of measures to reduce the need for supplemental workers does not require the participation of cental directing bodies. It is completely under the jurisdiction of regional, party, soviet and management bodies. First of all, the city and rayon employment departments must be charged with responsibility for the use of the supplemental workers. The labor department must serve as the inter-departmental agency for the optimal distribution of manpower and the strengthening of labor discipline. It should be vested with proper authority to accomplish this. In relations between the consumer enterprises and suppliers of the supplementary manpower and the intermediate employment departments, authority to determine the number of supplemental workers should be assigned to the supplier enterprises.

Up to now the movement of supplemental workers between the city and the rural area has been one-way--from the city to the country. Agriculture, however, in which the work is seasonal, could provide workers for the fruit and vegetable offices in rayon centers and nearby cities during the fall and winter period. This would be doubly advantageous to the state. In the first place, the number of workers taken away from their main jobs would be reduced significantly, and the seasonal nature of employment for agricultural workers would be eliminated. In the second place, the agricultural workers would feel increased responsibility for the quality of the products delivered to the city. The lower the quality of the vegetables, after all, and the more they are contaminated, the greater the losses when they are stowed and stored and consequently, the greater the losses of earnings. The kolkhoz or sovkhoz worker who has actually felt the dependence between the quality of the products delivered and his earnings will handle his main job with a greater sense of responsibility. We presently have in the RAPO [rayon agroindustrial association] an agency capable of implementing this proposal in a centralized manner.

The increased amount of work involved in harvesting the crop and stowing the fruits and vegetables for storage results in an acute shortage of loading and unloading equipment during that season. This shortage of equipment on the farms is "covered" by using supplemental workers, as we know. The suggestion by certain managers that fork-lifts and other essential equipment along with the operators be temporarily (during the harvest season or the period of stowing the products for storage) at the disposal of the kolkhozes and sovkhozes or the fruit and vegetable offices deserves very careful consideration. This would significantly reduce the need for supplemental workers, since a single fork-lift replaces up to 20 manual loaders. The seasonal peak need for supplemental workers in agriculture could be leveled out by achieving a situation in which the entire harvest from a single type of crop matures at the same time, especially since this problem has already been resolved from the agronomical standpoint.

Exercising more rigid control over the quality of the products placed into storage, even if it means increasing the staff of comodity experts and controllers somewhat at the fruit and vegetable offices, constitutes a large reserve for reducing the number of supplemental workers. This is entirely within the capability of the local agencies, which should assume special control over the quality of the products placed into storage and hold strictly accountable those leaders who violate the storage technology, thereby increasing the need for supplemental workers.

It would be useful to use the experience of the fraternal socialist nations for resolving the problem of the manpower shortage. City residents, students and vacationers are extensively used for harvesting fruits and vegetables in Bulgaria, for example. The secret behind the popularity of such extra earnings for city residents and vacationers lies in the piece-rate system of payment and the procedure for making the payment, which has been simplified to the maximum possible degree. Payment is made at the end of each workday. This experience would be especially useful to our kolkhozes and sovkhozes in the resort zone of the Black Sea coast, which specialize in raising grapes and fruits.

In the future, the form of patronage of kolkhozes, sovkhozes, fruit and vegetable offices by city organizations should be transformed. We need to switch from the system whereby city enterprises assist with manpower, which is greatly harmful to the national economy, to one of providing assistance with the technical outfitting of agricultural and procurement organizations and with the elimination of the labor-intensive processes involved in cultivating, harvesting and laying in the fruits and vegetables for storage. The experience of Kurgan, Klaypeda and Saran, where the practice of enlisting blue- and white-collar workers to work in the fruit and vegetable offices has been completely abandoned, proves this. All manual operations have been totally mechanized at the vegetable bases of these cities, and this has made it possible not only to get along without supplemental workers, but also to cut fruit and vegetable losses to the level of natural losses. In Kurgan, for example, losses of fruits and vegetables amounted to 10 percent in 1971 but only 1.6 percent in 1982. All the machines making it possible to mechanize the work at fruit and vegetable offices were manufactured at sponsoring enterprises in the cities. These achievements were only made possible by the active and concerned assistance provided by local party and soviet organs, which took on the functions of organizers and coordinators of all the work. A long-term approach to the resolution of personnel problems in the region and specifically, the reduction of manual and undesirable labor, can be seen in the work of the ispolkoms and gorkoms of those cities. This is the only correct way according to the CPSU instructions. It is directed toward the complete elimination of the very factors creating the need for supplemental workers. The example of these cities graphically demonstrates the effectiveness of intelligent initiative at the site and proves that all issues under the jurisdiction of regional management agencies can be successfully resolved without waiting for instructions from above.

School children organized during their summer vacations at work and vacation camps could provide assistance in the area of municipal services in the cities. They could be assigned jobs involved in improving the appearance and the landscaping of the cities, and certain other jobs in construction, in the consumer service field and in the rural area. School children vacationing at Pioneer

camps should be used more extensively on nearby kolkhozes and sovkhozes. In our opinion, however, the most promising system is the hiring of school children under individual job contracts (during the school year and when they are not in school) for positions which meet the physical criteria for employing adolescents, with maximum simplification of the job placement and payment procedures. Participation in publicly useful labor, combined with corresponding remuneration, would help to develop in the adolescents socially promising outlooks on life and a sense of personal worth, and would accelerate the process of their intellectual and social maturation.

11499
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LABOR

IMPROVED FARM WAGE RATES ADVOCATED TO PROVIDE INCENTIVE

Moscow SOTSIALISTICHESKIY TRUD in Russian No 10, Oct 84 pp 100-105

[Article by A. Linevich, doctor of economic sciences, chief of the job and wage rates classification sector, All-Union Scientific Research Institute on Agricultural Economics: "Increase the Stimulatory Role of Wages on the Basis of Improved Wage Rate Fixing for Agricultural Jobs"]

[Text] The industrialization of agricultural production, the further division of labor and labor cooperation, the creation of inter-farm enterprises, and the formation of agroindustrial associations make it necessary to improve not only labor organization but wages as well--and above all, the wage rate system.

The basic element of the wage rate system, on which the ability to satisfy the practical needs for paying wages primarily depends, is the wage rates manual. Two kinds of manuals are in use at agricultural enterprises: the manuals for setting wage rates for mechanized, draft animal-manual and manual (non-mechanized) jobs in horticulture and animal husbandry, where a list of jobs is given with their wage rate categories; and the job and wage rates classification manuals, which include jobs in repair shops, in construction, and in subsidiary production processes and enterprises, where the job and wage rate characteristics are given by occupation and specialty, with individual job descriptions.

In the future the job and wage rates classification manuals will be used in all branches of agricultural production. However it seems that they--unlike the existing manuals--must without fail contain two parts: first, one which includes the entire list of jobs along with the wage rate categories established for them; and a second part which contains the job and wage rate classification characteristics of the occupations and specialties.

At the same time, the manuals must be improved not only in terms of additions to their list of jobs, but also in their consistent use of the economic law of distribution of labor in organizing wages, further strengthening the objective principles of wage rate classification. This places primary emphasis on tasks for developing methods for defining wage rate categories which, on the basis of the job lists in the manual, would consider to the highest degree the specific production conditions on each farm.

The USSR Basic Labor Legislation indicates that the administration of an enterprise or organization is responsible for applying work performed to certain wage rate categories, in cooperation with the factory, plant or local trade union committee, according to the job and wage rates classification manual.[1] This applies equally to not only industrial but also agricultural enterprises, and permits considering the specific production conditions. Nevertheless this legislative statute has not yet been implemented in agriculture.

Thus, in the basic branches of agricultural production--in horticulture and animal husbandry--wage rate categories are established centrally for all kinds of jobs, not only mechanized jobs but others as well. They are mandatory for sovkhozes, and are also recommended for kolkhozes. In order to change the job category or to establish a new one, the farm must appeal to USSR Goskomtrud [State Committee on Labor and Social Problems], in spite of the fact that according to the law the enterprises themselves are required to fix the wage rates for work. In other production sectors in agriculture--in repair shops, on construction projects, in subsidiary production--although it is permitted to determine wage rate categories independently, in practice this is quite seldom done. The farms in the majority of cases continue to use the job lists and the wage rate categories established centrally in the manuals on norm-setting for labor.

Centralization in determining wage rate categories continues to exist for practically all kinds of jobs in agriculture, it would appear, for two reasons: first, there is a heavy burden of tradition from the past, when not only were the wage rate categories centrally determined, but the norms for production as well; second, there is a bias that if one gives the farms themselves the opportunity to regulate the wage rate categories, this will lead to unjustified wage increases.

Here it is worthwhile emphasizing that wage rate fixing for labor is organically connected with establishing norms, with production technology, with organization of labor and, finally, with the supplementary pay systems. All questions on improving them are answered within the farm. In these conditions, too much centralization in determining wage rate categories becomes an obstacle to rational organization of production and limits the initiative of the working collectives. Furthermore, the wage rate system itself, if it correctly considers the labor expended in production, will have a positive influence on increasing labor activity, the use of labor resources, growth of workers' skills, and economies in material and monetary resources; and therefore it must be continuously improved, and must consider more fully the conditions for wage rate setting on the farms.

The first group of circumstances which prompts one to change the practice of centralization of the wage rate system for agricultural labor which has come to pass--concern the differences in the job list and the job content shown in the existing manuals, from those actually performed. Analysis

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[1] Basic Labor Legislation of the USSR and the Union Republics. Moscow: Gospolitizdat, 1972. Article 37, p 19.

shows that on the average for one five-year plan, about 15-20 per cent of the jobs on the sovkhoz should be new, and about 10-15 per cent of the jobs in horticulture and animal husbandry should be eliminated from the job and wage setting manuals as obsolete. True, for various groups of jobs these figures could be higher and lower--this depends entirely on the rates of technical progress in the branch. Thus, according to the contents of the manual on wage rate-fixing for mechanized jobs, as indicated by an investigation on 23 sovkhozes in 10 economic regions of the RSFSR, over 32 per cent new jobs should have been added (Table 1). The manual used on sovkhozes for wage rate setting for mechanized jobs was published over 12 years ago. In that time the technology and organization of production has changed significantly, and consequently so has the job content.

Table 1

Compilation of Mechanized Jobs
Not Listed in the Existing Wage Rate Manuals Used on Sovkhozes

Job Wage Rate Category	Number of Jobs Not Listed in the Manual	As a Percentage of the Jobs Listed in the Manual
II	7	8.8
III	32	19.0
IV	123	30.1
V	204	40.7
VI	85	43.8
TOTAL	451	32.3

From table 1 it is obvious that it is far from the secondary jobs that are missing from the manual, inasmuch as jobs in categories IV-VI comprise the greater proportion both in terms of composition and in numbers. This is explained to a great extent by the fact that the farms have acquired powerful equipment with complex work implements; in addition the sphere of use of the existing tractors and machines has expanded, which the existing manual does not and cannot take into consideration.

As is well known, a large group of jobs are carried out at agricultural enterprises (repair, construction, subsidiary production and industry) for which categories are established in accordance with the job and wage rates classification manual. There is no job list in these manuals, and only the general characteristics are stipulated, on the basis of which (by means of comparative visual inspection) wage rates are set for all jobs which pertain to an occupation or specialty. The examples of jobs which are listed in the descriptions (and for many there are no descriptions at all) do not come close to exhausting the number of jobs performed on the farms.

Practical experience shows that the examples in the job descriptions embrace less than 25 per cent of the jobs. And therefore the majority of the jobs carried out must have wage rates set by the farms themselves. But since it

is not at all simple to do this, especially for the repair shops, the farms are not utilizing the opportunities granted them but are selecting ratings for jobs from various manuals--if they can manage to find them--or are setting up hourly wage scales.

The second group of circumstances requiring changes to the practice of centralization of job wage rate fixing which has taken shape is found in cases where, given the rapid rates of growing complexity of labor, it is not possible to establish uniform wage rate categories for the long term for all kinds of jobs throughout the country, which would totally satisfy the production conditions. Investigations have shown that for a significant number of jobs the wage rate categories in the existing manuals do not meet the needs of the farms. This applies especially to jobs in categories I-III, for which there are two reasons: first, the growth in the level of job mechanization, which previously had simple technology and comparatively low wage rate categories (harrowing, cultivating, preparing fodder, etc); second, the equipment operators do not want to do these jobs, inasmuch as they are poorly paid in comparison with the other processes of similar complexity.

Deeper investigations on different farms, for example in the production sectors of the Moldavian economic planning sovkhoz-tekhnikum, have shown that if one selects specific production conditions to authenticate the wage rate categories, for mechanized jobs classified in category IV in accordance with the existing manual 6.7 per cent of the jobs should be applied to category III and 30 per cent to category V. And only 63.3 per cent of the jobs coincided with category IV, that is, according to the catgories in the manual. The very same thing was observed for category V. Of the jobs classified for category VI, only 42.9 per cent should pertain to this category. And the basic portion (57.1 per cent) should be classified one category lower than stipulated in the manual.

But when another farm was taken for comparison--the "Zavety Il'icha" kolkhoz in the Lukhovitskiy Rayon of Moscow Oblast--it was discovered that for a number of the very same jobs almost an opposite phenomenon was observed, but it had the very same nature--the categories established centrally in the wage rate setting manual did not correspond with the specific conditions.

It is interesting to note that whereas the average wage rate category for mechanized jobs at the Moldavian sovkhoz-tekhnikum calculated in accordance with the manual on wage rate setting amounted to 5.4, after an experimental reclassification of the jobs taking into consideration the conditions on the farm it came to 4.6--that is, it declined by 14.9 per cent; although at the same time growth was also observed in the proportion of jobs in categories IV and V. By making the wage rate categories for the jobs more precise, wage economies of more than 15 per cent could have been achieved.

The disparity in wage rate categories concerns not only mechanized jobs but all others as well.

The third group of circumstances which make it necessary to reject centralized wage rate setting for labor is brought about by the constantly-growing differences in the content of the labor. The practice of determining the

wage rate category for an aggregate of jobs and combined occupations or specialties has become widespread in all sectors of agricultural production, but is especially prevalent in animal husbandry. Thus, for mechanized jobs in this branch, 15 jobs and 9 occupations are currently classified. In the realm of draft animal-manual work, 340 jobs and 140 occupations are classified. If one judges on a quantative basis, one could form an impression of the kinds of jobs which are prevalent. But one must bear in mind that one occupation (or even specialty) combines 5-10 or more kinds of basic jobs, which are carried out daily. Therefore, if one takes not only the number of jobs but their proportion and their importance as well, then the prevalence of classification of occupations in animal husbandry becomes obvious. In connection with putting animal husbandry on an industrial basis, the content of the occupations quickly changes; some are changed and some are organized anew.

Several factors influence the level of the wage rate categories; primarily this concerns the makup of the jobs performed. Research indicates that on different farms, occupations which bear identical titles involve different numbers of jobs, and differ radically in terms of complexity of labor. For example, the number of jobs for a milking machine operator ranges from 3 to 8 kinds. And this pertains to not one-time job tasks but to tasks which are carried out every day. At the same time on some complexes and farms the operator's direct responsibilities include only milking and feed distribution; but on others an entire list of jobs, starting with milking and ending with cleaning up the premises. It is completely clear that this requires labor of varying degrees of complexity, although the occupation of milking machine operator is always classified at the very highest (VI) category.

In many situations the work of operators in charge of caring for the animals can be entirely different on different farms and complexes. Nevertheless, the occupation of an operator in charge of caring for cattle (that is, the aggregate of tasks combined in this occupation) are classified in all cases according to one and the same category.

Additionally, tasks which are part of a classified occupation can occupy varying lengths of time. And different kinds of equipment and devices are used for carrying them out. Naturally it is not possible for a variety of reasons to introduce uniformity in job makeup and in the length of time for carrying it out on all farms and complexes for the same occupation. These reasons include the level of mechanization, the technology for caring for the cattle and other objective reasons. And all this leads to significant differences in the complexity of the labor; hence there cannot be identical wage rate categories for occupations with the same title.

One should also take into consideration that, with the establishment of complexes, new occupations are continually appearing, the categories for which cannot in general be foreseen in the wage rate classification manuals. The lack of wage rate categories for them quite often leads to irrational use of funds for paying wages, delays introduction of progressive forms of production organization and aggravates the shortcomings not only in classification of the labor, but in setting norms for it as well.

Investigations have shown that the disparity of the wage rate categories in the manuals with the specific production conditions and also with the newly-organized occupations is observed not only on dairy farms and complexes, but also in hog, poultry and sheep-raising; and involves the farms and complexes not only belonging to sovkhozes and kolkhozes, but also the interfarm enterprises and associations.

Classification of occupations is also employed in other sectors of agricultural production, although to a lesser extent than for animal husbandry. In horticulture, occupations are classified primarily when labor is organized in teams for raising individual crops or groups of crops; in detachments and teams for procuring and hauling organic fertilizers; in fodder production; and at the majority of the greenhouse combines. Classification of occupations (true, most often specialties) is carried out in shops for repairing agricultural equipment, in repair and construction brigades, in subsidiary production and industries, and also in other sectors where a single worker must carry out a complex of interrelated jobs.

Inasmuch as the principles for organizing occupations are identical for all production sectors, the shortcomings in their classification which we discovered in animal husbandry are inherent in all other branches and sectors of agricultural production as well. Changes in the technology of production, the appearance of new machinery and implements of labor, and improvements in labor organization lead--in all sectors of the economy--to the disappearance of some kinds of jobs and occupations and to the appearance of others; and to reorganization of jobs and the occupations they comprise, which were previously carried out; which, naturally, cannot be completely foreseen in the existing wage rate classification manuals.

In order to bring out the makeup of the jobs and to include new occupations, it would be expedient to reexamine the manuals for horticulture and animal husbandry every 3-5 years, and to work out a more complete list of tasks for the occupations listed in the job and wage rate classification manuals--and systematically bring them up to date. However, inasmuch as the process of changing the content of labor is going on constantly, labor involving carrying out one and the same task, it appears to be impossible to completely eliminate the shortcomings in establishing wage rate categories. For objective reasons the manuals will never quite correspond to the practical needs for accounting for conditions of wage rate classification for labor, which appear on each specific farm.

But it is not only a problem of finding more well-grounded means for supplementing the wage rate classification manuals and for adapting them to the specific conditions on the individual farms. It is also necessary to work out qualitatively new methods for establishing wage rate categories, which would more fully correspond to the contemporary level of development of agricultural production, and which would support an increase in labor effectiveness with the least amount of wage expenditures. In order to do this, one would think, it is necessary to change the method of classification of labor on the farms, and bring the definition of wage rate categories into the closest possible contact with specific production conditions.

Science currently possesses sufficiently well-grounded analytic methods for evaluating the complexity of labor, which would permit considering the specific production conditions on the farms and determining the wage rate categories. However, their use in the practical work of agricultural enterprises is complicated by the difficulty of gathering the necessary information, by the lack of the drive required to get things done, and also by the significant volume of special observations which the farms themselves cannot always make. Therefore, there must be an intermediate link which would on the one hand have at its disposal all the achievements of science for analyzing the complexity of labor, and which would on the other hand make the methods for establishing categories for jobs and occupations in production conditions more accessible. Such a link, as the course of development of economic science indicates, could be the normative method.

The essense of the normative method for defining wage rate categories consists of use of coefficients for complexity of labor, which are differentiated depending on the specific production conditions. The coefficients must be worked out by scientific research institutions with the aid of the analytical method, and must be given to the kolkhozes and sovkhozes. On the farms, the factors which affect the classification of labor will be brought out, the appropriate coefficients will be selected, and the wage rate categories determined accordingly.

Research shows that the normative method should have two groups of coefficients: one for establishing the wage rate categories for newly-formed jobs and for defining the categories for jobs already being performed; and a second both for determining the wage rate categories for newly-formed jobs and for defining the categories for occupations and specialties which have already taken shape, but which differ on the farms in terms of conditions for setting rates for the labor.

Table 2
Chart for Computing Factors for Wage Rate Setting for Jobs
and for Evaluating the Complexity of Labor
in Horticulture and in Animal Husbandry
by the Normative Method

Wage Rate Setting Factors for Labor and their Criteria	Coefficients for Complexity of Labor	
	Minimum	Maximum
A. Classification of Jobs		
I. Complexity of Work	0.5234	1.0352
II. Job Responsibility	0.5234	0.9484
B. Intensity of Work		
III. Physical Intensity	0.5234	3.2065
IV. Mental Intensity	0.4298	1.3711
C. Working Conditions		
V. Weather Conditions	0.0000	0.4938
VI. Dangerous Conditions	0.0000	0.6646
VII. Special Conditions	0.0000	0.4424
Altogether	2.0000	8.1620

Let us first examine the possibilities for working out a system for calculating the coefficients for setting job wage rates. For illustration we shall cite the criteria taken for the normative method of determining labor complexity and their minimum and maximum coefficients (Table 2).

As we see from Table 2, with the normative method all conditions for wage rate setting are calculated according to three factors, and the factors in turn by seven criteria. In the analytic method the criteria are further divided into simple elements for which the level (gradation) is determined and the tables calculated for the coefficients of the complexity of labor.

The normative method, in order that the farms might use it, should (within the limits of permissible errors in the accuracy of the labor analysis) greatly simplify the method of determining both the conditions for labor rate setting itself, and the coefficients for calculating the wage rate categories. However, the use of only minimum and maximum coefficients does not yet permit completely analyzing the tasks and defining their categories. Intermediate coefficients are needed, which take into consideration the corresponding manifestation of conditions for labor rate setting.

Studying the makeup of the jobs carried out in horticulture and animal husbandry shows, that for the normative method it is enough that each criterion for job analysis has three-four charactistic ratings which reflect the increasing degree of complexity of the labor, and which correspond to the normative coefficients and to the examples of the work. We prepared such characteristic ratings for all seven of the criteria which determine the job analysis by the normative method. The sum of the coefficients for all seven criteria provides a general evaluation of the complexity of the labor required to carry out the jobs.

The second group should consist of the coefficients for labor complexity which will permit determining the categories for an aggregate of tasks which make up the occupations (specialties) on the farm. For this purpose one must have coefficients for labor complexity for those jobs which may be part of these or other occupations, and also formulate them anew.

Table 3
Normative Coefficients for Labor Complexity for the Job "Letting Cows into the Milking Area and Letting them Out"

Indicators	Type of Milking Unit			
	UDS-3	UDE-8 "Elochka"	UDT-6 "Tandem"	Other, More Powerful Units
Normative Coefficient for Labor Complexity	2.2710	2.7526	2.8865	2.9285

In a methodical respect, calculating the coefficients for labor complexity will be the same for jobs in any sector of the economy. Let's take as an example the dairy cattle business. Research has shown that 23 kinds of jobs

are carried out in this sector, and must be included in the normative method of labor wage rate setting. The coefficients of labor complexity calculated for these jobs are differentiated depending on the factors which in concrete production conditions have an influence on the level of the average wage rate category for the aggregate tasks which comprise the occupation or specialty. We shall cite as an example a table of coefficients for one of the jobs (Table 3).

Normative coefficient tables just like this were compiled for all the other tasks which pertain to the normative method of wage rate classification for labor on dairy farms. Tables of a similar nature could be developed for any branch of animal husbandry, as well as horticulture, where the occupations and specialties are stable and where wage rate classification is carried out.

In order that it might be possible to use the normative method for refining or determining wage rate categories by occupations (specialties) taking into consideration the specific production conditions, one must have in addition to normative coefficient tables for labor complexity, the following initial data: (a) a complete list of tasks carried out on the farm by one occupation (specialty) or another; and (b) the average amount of time spent in carrying out each task involved in the occupation. This information can be found on the farms by means of observing the workers or by taking the data from the normative manuals which are used for setting norms for labor.

After the makeup of the tasks and the time required for carrying them out are found, a general coefficient of labor complexity is calculated. For this purpose the time required to carry out each job for which a worker is responsible is multiplied by the coefficient for labor complexity for the given operation, and the nominal work time is developed. By dividing the sum of the nominal times for all tasks by the sum of the work time, the general coefficient is determined for labor complexity for the aggregate tasks which make up an occupation (specialty).

The general coefficient for labor complexity both for tasks and for occupations and specialties serves as the basis for defining the wage rate category. A special scale was worked out for this purpose.

In Zhitomir Oblast, the proposed normative method was selectively applied to more than 100 kinds of jobs carried out in horticulture and to certain occupations in animal husbandry. Wholly satisfactory results were achieved. The normative method for job rate setting, it goes without saying, cannot replace the analytical method as a more accurate instrument for measuring labor complexity. At the same time it is capable of rendering significant help in places in refining job categories, and permits solving on the farms questions of wage rate setting for the appearance of new jobs and occupations on a more well-grounded basis than is the case at present.

Using the normative method of rate setting for labor does not at all signify rejection of the centralized wage rate system. As before, the wage scales, the rates, and the manuals for labor rate setting should in all cases be

worked out and approved centrally. The normative method merely supplements the existing wage rate system, and makes it more responsive to production conditions. With the help of the normative method there is no need to carry out a reclassification of all jobs and occupations on the farms. This should be done only for those jobs and occupations which are not listed in the manuals or for which the established wage rate categories give rise to doubts. Therefore the basic purpose of the normative method is reduced to supplementing and refining the wage rate system in consideration of the specific production conditions on the farms.

The development and use of the normative method of determining wage rate categories permits achieving, in state wage regulation, the optimal combination of centralization and accounting for specific production conditions, which will be an exceptionally important step toward streamlining the wage rate system and improving the organization of basic wages at agricultural enterprises.

9006
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LABOR

NEW REGULATIONS ON FLEXTIME FOR WORKING MOTHERS DETAILED

Moscow EKONOMICHESKAYA GAZETA in Russian No 46, Nov 84 p 20

[Regulations of the USSR State Committee for Labor and Social Problems and the AUCCTU, issued 6 June 1984: "Regulations On the Procedure and Conditions for Using Sliding (Flexible) Work Schedules for Women Who Have Children"]

[Text] The USSR State Committee for Labor and Social Problems and the AUCCTU have approved the "Regulations on the Procedure and Conditions for Using Sliding (Flexible) Work Schedules for Women Who Have Children" (6 June 1984, No 170/10-101). These regulations are being published in complete form at the request of the readers.

1. General Provisions

1.1 A sliding (flexible) work schedule is a special form for regulating the work routine in an enterprise, establishment and organization, which provides for the personal participation of women, who have children,* in the determination of their work periods in conformity with their daily social, living and other personal requirements and with a consideration for production interests.

1.2 The present regulations provide legal norms which insure the most favorable conditions for female workers to combine the functions of motherhood with professional activity and with participation in public life when they are working on a sliding (flexible) schedule.

1.3 The use of a sliding (flexible) work schedule for female workers must insure the best combination of economic, social and personal interests for them. The use of the schedule can be reflected in the enterprise, establishment and organization branch regulations.

1.4 A sliding (flexible) work schedule can be used for female workers both during a five-and six-day work week and during other work regimens in the enterprises, establishments and organizations of all branches of the national economy.

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* In the future, they will be called "female workers" for brevity.

1.5 The organization of the work of female workers in accordance with a sliding (flexible) schedule is handled by the administration of the enterprise, establishment and organization together with the trade union committee.

2. The Procedure and Periods for Introducing a Sliding (Flexible) Work Schedule

2.1 A sliding (flexible) work schedule is established based on an agreement between the administration and the female workers when they are hired for work and also by the administration and the female workers if they cannot work the usual schedule, which has been established in that enterprise, establishment and organization, in connection with the need to care for their children.

The mentioned schedule is introduced by an order of the administration with the agreement of the trade union committee. When doing this, the distinctive features of the industry, the technological process and the work organization and conditions and the opinions of the work collective of the shop, section and department, where the work will be performed according to this schedule, must be taken into consideration.

2.2 A sliding (flexible) work schedule can be established both without any time limitations and for any period convenient for the female worker: until the child reaches a certain age, during the school year, etc.

3. The Working Time and Rest Time Regimen With a Sliding (Flexible) Work Schedule

3.1 A sliding (flexible) work schedule should provide female workers with the length of daily and weekly rest that has been prescribed by legislation. In this regard, the maximum total length of work time a day should be no more than 10 hours; and the time present in an enterprise, establishment and organization should be no more than 12 hours from the beginning to the end of a shift, including unpaid breaks.

3.2 Depending on production and local conditions, a sliding (flexible) schedule can be used in different versions with different work time and rest time regimens. However, the observance of the annual work time balance, which is calculated on a seven-hour work day and a six-day work week (for example, 2,092 hours in 1984), must be an indispensable condition for the schedules being used.

3.3 As a rule, a sliding (flexible) work schedule must consist of three parts:

--"fixed time" -- the time when the female worker must be at her job;

-- "variable time" -- the time within whose limits female workers have a right to begin and end work at their discretion;

-- "breaks for rest and eating" -- no less than 30 minutes and no more than two hours which the female workers must use for rest and eating during the "variable time" period. This break is not counted in work time.

3.4 Female workers, who are making use of the right to a sliding (flexible) work schedule, may also work according to the generally established schedule for a certain time period considering their personal interests.

3.5 When allotting additional breaks for feeding children, which have been established for them under the conditions of a sliding (flexible) work schedule, to nursing mothers and women who have children less than a year old, the "fixed" and "variable" time can be changed.

3.6 The involvement of female workers, who are employed on a sliding (flexible) schedule, in work above the established work time can be allowed only in the manner and for the reasons mentioned in Articles 54, 55, and 63 of the RSFSR Labor Law Code and the corresponding articles in the labor law codes of the other union republics.

3.7 When working on a sliding (flexible) schedule and, at the same time, on a part-time basis (in those cases prescribed by the laws in effect), the work time norm for female workers is decreased accordingly and should be adjusted with a consideration for the actually established weekly or monthly work time norm.

3.8 When working on a sliding (flexible) shedule in plants, work shops, sections, and departments where a summarized accounting of work time has been introduced, the female workers' finishing (on the average) of the weekly norm can occur over the course of a week, a month or other period that has been adopted in the subunit as the accounting one.

4. Calculating Work Time With A Sliding (Flexible) Work Schedule

41. An accurate accounting of work time and effective supervision over the fullest and most rational use of work time by each female worker are the indispensable conditions for the effective use of a sliding (flexible) schedule.

4.2 The calculation of the work time of female workers, who are working on a sliding (flexible) schedule is done in accordance with the table for calculating the use of work time and calculating wages and with the table for calculating the use of work time (standard interdepartmental forms Nos T-12 and T-13 which were approved by Order No 902 of the USSR Central Statistical Administration dated 17 December 1974 with its amendments stipulated in letter No 10-63 of the USSR Central Statistical Administration dated 26 March 1984).

5. Other Questions Connected With the Use of a Sliding (Flexible) Work Schedule

5.1 Female workers, who have violated the conditions for working on a sliding (flexible) schedule can be depri ed of the right to use this schedule for a

period up to three months. For a repeat violation of the sliding (flexible) work schedule, female workers are transferred to the generally established work regimen with the application of appropriate disciplinary punishment measures against them.

5.2 Working in accordance with a sliding (flexible) schedule does not free a female worker from participation in the common measures that are conducted on the scale of the structural subunit (work shop, section and department) and enterprise, establishment and organization as a whole.

5.3 In cases of production necessity, the administration can temporarily transfer female workers to the generally established work regimen for a period up to one month.

5.4 When performing work outside of the enterprise, establishment and organization (official business trips, participation in symposiums and conferences, etc.), the sliding (flexible) work schedule is not used.

8802
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LABOR

SHIFT COEFFICIENTS IN MACHINEBUILDING INDUSTRY EXAMINED

Moscow SOTSIALISTICHESKIY TRUD in Russian No 9, Sep 84 pp 13-22

[Article by Yu. Charukhin (Scientific Research Institute for Labor): "Problems of Shift Work in Machinebuilding"]

[Text] The domestic machinebuilding industry has a powerful material base; during the past decade fixed production assets of this most important branch grew by more than a factor of 2.5. The capital-labor ratio has grown accordingly; in 1981 it already amounted to 218 per cent of the 1970 figure. A significant portion of the costs for fixed capital goes to industrial equipment. At machine building and metal working enterprises this portion reaches 47 per cent. But what sort of returns do we get? For now, one could hope for better. Economists have calculated that additional output worth many billions of rubles could be produced annually, if production capacities were assimilated in a timely manner and completely utilized.

Among the indicators for use of fixed capital, the shift coefficient has an important place. It reflects the length of time that the implements of labor are occupied in the course of a 24-hour period, and is directly associated with the most important indicators of work effectiveness and quality. As it was noted at the December (1983) CPSU Central Committee Plenum, in its time there was a large-scale movement toward increasing it; however, subsequently it unjustifiably began to die out. At the present time in machine building, where 25-30 per cent of all industrial machinery and equipment is concentrated, the shift coefficient amounts to 1.37 in all; that is, the equipment operates on the average for 10-11 hours per day. Therefore, the task set by the party for utilizing the industrial potential to the maximum, for increasing equipment operating time, and for increasing the shift coefficient, is an extremely urgent one.

Certain Questions of Methodology

According to the methodology of USSR TsSU [Central Statistical Administration], the shift coefficient for equipment operation ($K_{см.о}$) is the indicator representing the total workload of machinery and components for all shifts. It shows on the average how many shifts each unit of equipment has operated during a day, and measures the relationship of the number of machine tools which have operated during the day (machine)-shifts (CM) to the total number of machines installed (MY):

$$K_{см.о} = \frac{CM}{MY} .$$

However, there is as yet no uniform opinion in economic literature on the structure of the given indicator. Sometimes the shift coefficient is calculated as the relationship of the number of machine-tool shifts operated to the number of machine tools operated in the busiest shift. In this case equipment which is installed but not in operation is not considered.

In our opinion, first of all the methodology employed today, which is based on conducting one-time investigations, is more costly; and secondly, being aware of such investigations in advance gives certain supervisors the opportunity to take temporary measures which distort the true situation. For example, on the day of the check they try to put the maximum possible amount of equipment into operation, thereby increasing the shift coefficient.

In this connection, at the enterprises of certain machine building ministries (Mintyazhmash [Ministry of the Heavy and Transport Machine Building Industry] and Minstankoprom [Ministry of the Machine Tool and Tool Building Industry]), they use different methods, and define the shift coefficient on the basis of data from the time sheet records showing how many machine-tool operators showed up for work (assuming that a machine tool operates the same number of machine-tool shifts as there are workers to operate it); thus, the following formula is used:

$$K_{см.о} = \frac{T_{об} K_{обсл}}{C_{уст} Д} .$$

where $T_{об}$ --is the number of days the workers worked, including those who operate more than one machine tool, according to data from the time sheet records indicating who showed up for work;

$K_{обсл}$ --is the service coefficient, which takes into consideration the number of workers in the shop who operate more than one machine;

$C_{уст}$ --is the number of units of installed equipment; and

$Д$ --is the number of work days in the accounting period.

Another serious deficiency is the lack of uniformity of the periods of investigation. For example, according to the USSR TsSU methodology, the shift coefficient for equipment is calculated once in two years (presently this is being done annually), whereas according to instructions from Mintyazhmash and Minstankoprom it is done every quarter. As a result it is not possible to combine the drafted, the planned and the reported data. The lack of inter-branch instructions for defining production capacity and the balance of utilization has led to disassociated analyses of capacity and shiftwork: with respect to the machine-building plants, calculation of capacity does not include the entire pool of machine tools, but only certain ones, the so-called leading group of machine tools. Additionally, free selection of the leading units is permitted, without respect to the level of advancement of the equipment. The result of all of this is that the enterprises' real capabilities are distorted, and this does not permit making sensible decisions for making more complete use of the basic production assets.

It seems to us that the indicator $K_{см.о}$ should be used very circumspectly in analyzing the work of an enterprise. One should not forget that the number of machine-tool shifts actually worked can increase as a result of

less-productive use of equipment. Without establishing the factors for growth of $K_{см.}$ and analyzing their influence on the basic technical-economic indicators it is not possible to make a judgement of an enterprise's activity.

According to this methodology, the shift coefficient for workers ($K_{см.р}$) is defined as the relationship of the number of man-days ($Ф_д$) worked in a given period for all shifts to their number on the busiest shift ($Д_р$):

$$K_{см.р} = \frac{Ф_д}{Д_р} .$$

But actually, for a specific date this coefficient is defined as the relationship of the number of workers who show up for work to those who are employed on the first shift. The given coefficient is widely used in practice, and does not cause any particular disagreements among economists.

Let us dwell in greater detail on the methodology for determining the shift coefficients for equipment and for workers. The opinion is quite widespread that the shift coefficient for machinery and assemblies characterizes the intensity of their use. This conclusion is made on the basis of the fact that $K_{см.}$ increases with the increase of equipment operating time, but neglects the fact that the given value is examined within the framework of its 24-hour workload. In this case, increasing the duration of operating time of equipment can be considered an intensive factor. According to the existing methodology, idle periods which occur during a shift are not considered when defining $K_{см.}$, and under conditions of intensive development such an approach is inappropriate. For example, it is sufficient to turn on a tool for 15 minutes in the course of a shift, and it is considered to have operated for the entire shift. It goes without saying that such "calculations" only distort the picture, and to a very significant degree.

In our opinion, when calculating the shift coefficient for equipment one must take into consideration both the idle periods during a shift, and the normative (planned) period of operation for each machine tool in the course of a shift. All of these data are needed to one degree or another in order to calculate the productive capacity of an enterprise. Calculating $K_{см.}$ according to the proposed system requires organizing accounting for the operation of each machine tool in terms of hours, which is especially important in conditions of intensification of production, when the amount of production per unit of equipment should be at the maximum.

Concerning the shift coefficient for workers, it seems to us that it would be fitting to change the formulation itself. It is proposed to examine it as the relationship of the number of mandays worked on all shifts, to the number of mandays which could be worked with all workplaces completely occupied ($Д_{р.м}$). In its turn, $Д_{р.м}$ is defined as the product of the average number of workplaces and the number of workdays in the period analyzed (month, quarter, year). For a specific date, the coefficient ($K_{см.р}$) can be defined as the relationship of the number of workers present for duty to the number of workplaces. In practical calculations it is more convenient

use $K_{см.р}$, defined as the relationship of the average number of workers on the rolls for the corresponding time period ($Ч_р$) to the average number of workplaces ($М$):

$$K_{см.р} = \frac{Ч_р}{М}.$$

By virtue of its meaning, this coefficient can pretend to the role of a generalization, which characterizes for the enterprise as a whole the uniformity of workload for both equipment and workers by shifts.

One should take into consideration that increasing the shift coefficient is not an end in itself, but only the means which permits increasing product output with the fixed capital of existing enterprises, and increasing labor productivity and effectiveness of social production as a whole. Being an analytical indicator, it (if properly used) makes it possible to bring to light reserves in equipment use and to determine how much product output can grow by virtue of its increase. Basic work in the given area should be directed toward reduction of overall expenditures per unit of manufacture, which implies savings in social expenditure of labor.

What the Analysis Shows

Since 1963 one-time observations of equipment utilization have been conducted in our country. They permit tracing changes in the shift coefficient. And what did the latest analysis show? Economists calculated that the socially necessary shift coefficient for the national economy on the average amounted to 1.6; in other words, for every 100 workplaces, 160 persons should be employed. In actuality, for this number of workers there are 113 workplaces.

But if one speaks of equipment, two years ago the number of metal-cutting machine tools in the country greatly exceeded the number of machinists: for every 100 machine tools, there were 40 machinists on the first shift, and on the second and third together--12 workers. The coefficient of use of production capacity varied from 0.79 throughout Minzhivmash [Ministry of Machine Building for Animal Husbandry and Fodder Production] to 0.93 in Minavtoprom [Ministry of the Automotive Industry]; while the shift coefficient ranged from 1.24 in Minstankoprom and Mintyazhmash to 1.51 in Minsel'khozmash [Ministry of Tractor and Agricultural Machine Building] and Minpribor [Ministry of Instrument Making, Automation Equipment, and Control Systems]. On the average for 11 machine building ministries, according to the latest statistical data, these values amounted to 0.88 and 1.37. It turns out that, on the one hand the indicator for use of production capacity for equipment may not be ccause for alarm, and on the other that the shift coefficient is low, which testifies to low returns on the fixed capital. Thus, neither indicator agrees with the other, and as a result neither do the production plans established by the ministries of many enterprises, which are oriented on the low shift coefficient. Material-technical supply is built on their basis, which creates difficulties in increasing the shift coefficient. And the result is a vicious circle.

There is another interesting fact. There are enterprises whose shift coefficient for equipment is even less than one. It turns out, that their machinery and assemblies are not occupied for the entire shift, but the plans for product output are, as a rule, filled. Naturally the question arises, what kind of plans are these and how are they formulated?

And here is what analysis showed of the dyanics of change of the shift coefficient in various branches for metal-working equipment on the whole, and also in basic and auxiliary production. It turned out that at all the ministries investigated $K_{см}$ actually declines; whereas, this takes place against a background of increasing the overall amount of metal-working equipment. For example, for Minenergomash [Ministry of Power Machine Building] it increased by 15.4 per cent over a five-year period; for Mintyazhmash, correspondingly, by 10.9 per cent. A reduction in the shift coefficient is also observed for all groups of metal-working equipment, and this applies especially to auxiliary production, where 30-35 per cent of the total amount is concentrated. Here, $K_{см}$ is lower by approximately 20 per cent than in basic production. At none of the enterprises investigated was the equipment uniformly used in the course of a day: the greater part was used on the first shift, but on the rest it was much worse.

But what is the basic reason for the decline in $K_{см}$? Primarily it is caused by the lack of correspondence between the number of workplaces and the available manpower. At many enterprises, as the press repeatedly notes, there is a great deal of excess, idle equipment, and especially metal-cutting machine tools; production capacities of adjacent sections do not coincide; and the structure of the pool of machine tools frequently does not correspond to the labor-intensity of the production in accordance with the production program.

Poor use of equipment is brought about by a number of factors of a technical, organizational and socioeconomic nature. One of these is the aging of the pool of machine tools as a result of a low rate of replacement. As a result, there is an increase in stoppages both for planned and unplanned repairs. As is well known, output of technological equipment is increasing from year to year; however, the rates of this growth do not meet the demands of today. Suffice it to say that at the present time, 52 per cent of the metal-cutting machine tools at the enterprises of machine-building ministries are up to 10 years old, and 32 per cent are from 10-20 years old; the proportion of forge and pressing machinery (manually-operated excluded) is, correspondingly, 52 and 29 per cent. Speaking at a meeting with workers at the Hammer and Sickle Metallurgical Plant in Moscow, CPSU Central Committee General Secretary, Chairman of the Presidium of the USSR Supreme Soviet, K.U. Chernenko noted: "Technical reequipment of the branches and introduction of the latest achievements of science and advanced experience are especially important at the present stage. One can say that this urgent requirement of the times is the dictate of the epoch".

Timely removal of obsolete and worn-out equipment, and replacing it with modern machinery will permit not only reducing the overall amount but will also increase the work-rhythm of the machine tools by virtue of reducing the

disproportion in capacity of certain groups of equipment, sections and shops, and will create the preconditions for widespread introduction of servicing more than one machine at a time by one worker. And here certification of workplaces is called upon to play the most important role.

One continues to hope for better use of high-productivity automated equipment and machine tools with numerically programmed control, which according to studies, have a load coefficient of 0.3 to 0.6 with an average shift coefficient of 1.28 for the machine-building industry as a whole. Naturally this has an effect on worker productivity. Obviously it would be fitting to to spread throughout the land the initiative of the capital's leading enterprises, which are competing under the slogan "For Highly-Productive Equipment--a Two-Shift Workload".

Significant losses in worktime are caused by shortcomings in organization of planning, production and labor; in imprecise work by dispatcher services for material-technical supply; in interruptions in the delivery of component parts, materials, orders, instruments and others. For example, at the time of the study at the Perm' mining equipment plant, 19 metal-cutting machine tools in production flow-line shop number 3 were not working at all (although this production was completely staffed with enough machinists for three shifts). It turned out that there were no parts, which were to be supplied on a cooperative basis.

But meanwhile, there are also other examples. For example at the "Soyuzneftemash" all-union production association, the shift coefficient shows regular growth as a result of the fact that they systematically analyze the operation of the machinery and units at every plant here, and use standard shift coefficients for metal-working equipment in basic production for the five-year plan. Thus, at the Machine Building Plant imeni Lt. Schmidt, $K_{см.}$ has grown from 1.38 to 1.72 since 1969; at the Kishlinsk Machine Building Plant, likewise from 1.48 to 1.74; and at the Baku Machine Building Plant for the Petrochemical Industry imeni P. Montin, from 1.26 to 1.80.

The given experience is extremely instructive, since in order to correctly analyze the achieved level of equipment shift operation, one may do so only by contrasting it with an established standard. This permits objectively defining the existing reserves in the use of the pool of machine tools. However, at the present time there are no such standards.

We propose calculating the standard shift coefficient ($K^{н}_{см.о}$) according to the formula

$$K^{н}_{см.о} = R\left(1 - \frac{n_{ф}}{100}\right) K_{з},$$

where R--is the standard equipment operating regime (number of shifts);
$n_{ф}$ --is the established time in the course of which the equipment is down for planned, preventive maintenance; and,
$K_{з}$ --is the planned (standard) coefficient which takes into consideration the degree of equipment workload (various types and dimensions of production).

Organizational Reserves

In connection with the extremely limited possibilities for hiring machinists the enterprises should focus their basic attention on internal reserves for manning equipment, by means of workers released from other production sections, as well as technical, organizational, economic and social reserves. Among these an extremely tangible effect is provided, as is well known, by servicing more than one machine tool at a time, by combining professions and by brigade labor organization. Calculations show that each worker who works at several machine tools or on the basis of combined professions has an average annual economic effect of about 400 rubles. According to research data, a 5-per cent shift to multi-machine servicing at 20 average plants will permit releasing as many people as would be required to staff a new plant employing over 10,000 workers. In 1983 more than 60,000 people were involved in measures for developing this form. It became most widespread in the mass production sectors, where automatic and semiautomatic equipment is widely used. And growth of labor productivity for one person who operated a number of machine tools amounted to 17 per cent. In the complex of organizational and technical measures which create the conditions for transition to multi-machine tool servicing, equipment modernization, which is cheaper than buying new equipment, has an important place.

Eloquent testimony to the fact that the shift coefficient increases with the introduction of multi-machine tool and multi-unit servicing is the following example: among the workers who service more than one machine tool at the Ural Coach Plant imeni F.E. Dzerzhinskiy, it exceeds the average level for the branch by 25 per cent. A great deal has been done to develop multi-machine tool servicing at the enterprises of the Leningrad "Elektrosila" Association. In order to create the necesary conditions for transition to this progressive form of labor organization, they've worked out a complex of organizational and technical measures here, among which group processing has become widespread. Sections have been formed for machine tools with numerically programmed control. As a result at one of the shops they have managed to go from two-shift to three-shift operation with no change in the number of machinists. However, this is not the situation everywhere by far. Take for example the Minsk Motorcycle Plant, where mass production is the predominant type--only 5.7 of the workers are involved in operating more than one machine tool, and 12.8 per cent in combined professions. By virtue of brigade labor organization labor productivity here has grown by only 0.06 per cent.

Combining professions is employed most widely and successfully under conditions of brigade labor organization. This is completely normal and corresponds with the very nature of collective labor, in which pay is determined by the final results. In the new type brigade every member masters two or three and more adjacent professions, and continuously works in any of them in accordance with the technological process or by virtue of production necessity. By virtue of combining professions, idle time is practically eliminated in well-organized primary collectives, and work time is utilized better. The brigade form of labor organization creates broad possibilitities as well for working at several machine tools. This advantage has been demonstrated by practical experience itself.

For example, at the "Krasnyy Ekskavator" Plant in Kiev, owing to wide-scale development of the brigade form, lost work time at the fault of the workers was reduced by a factor of 2.2 over a four-year period; the total number of workers was reduced by 3.5 per cent; and production volume rose by 12.6 per cent. The experience of the complex integral process brigade of machinists at the mechanical shop of this enterprise, led by V. Mishchenko, is interesting. There are 14 people in the collective (lathe, drill-press, milling machine, and grinding machine operators). Among them, seven men have mastered two professions, three have mastered five, and four two. This permitted reducing the size of the brigade by eight persons, without changing production volume, and permitted fulfilling the plan for labor productivity by 114 per cent. Complete interchangability prevents stoppages of metal-cutting equipment, supports combining auxiliary tasks connected with preparation, servicing, resetting, minor repairs and others (at which auxiliary workers were previously occupied) with the basic tasks, which can be performed in a closed technological cycle.

Thus, the economic effect of servicing more than one machine tool and combining professions is indisputible. However, in spite of the severe shortage of personnel, these are being introduced slowly in a number of branches; moreover, what is especially alarming is the fact that it is not planned to improve this work in the future everywhere. For example, Minenergomash and Minkhimmash [Ministry of Chemical and Petroleum Machine Building], in the current five-year plan are planning to bring the proportion of those employed at servicing more than one machine tool, or unit, to 14.8 and 10.9 per cent, respectively. The situation with respect to combining professions is similar. For example, at enterprises of Minstroydormash [Ministry of Construction, Road and Municipal Machine Building] and Minzhivmash, by the end of the five-year plan, plans call for involving fewer than 6 per cent of the workers in this form, which is one-and-a-half times lower than for the machine building industry as a whole.

But you see, there are real possibilities for correcting the situation. According to estimates by NII Truda, if attention to this question is intensified and a number of organizational-technical measures taken, the proportion of those operating more than one machine tool can be brought to 18-22 per cent in small-lot production, 24-28 per cent in serial production, and 48-54 per cent in mass production.

Effective operation of the pool of machine tools facilitates introduction of a system of regulated servicing of work positions according to basic functions (repair, providing instruments and technological equipment, quality control, etc.). For example, at the Minsk Instrument Plant well-organized centralized servicing permitted raising the shift coefficient for major and unique equipment to 1.6, and machine tools with numerically-programmed control to 1.78, with a planned shift coefficient for metal working equipment of 1.52 for the five-year plan.

The experience of the Leningrad Coach Building Plant imeni Yegorov is worthy of attention. At the beginning of the year a commission will be created for working out measures which will provide an increase in the shift coefficient, and control over their implementation. The commission, headed by

the chief engineer, plans the shift coefficient for each shop and for each group of equipment, based on ministry assignments. Responsibility for carrying out the given tasks rests with the chief production engineer.

The experience of the Dnepropetrovsk Combine Plant imeni K.E. Voroshilov in certifiying work positions, which has received broad support, is especially important to the solution of the problem at hand. As is well-known, during the certification process obsolete and unburdened work positions appear, which can be eliminated without harming the production program. Based on the results of the certification, it can be determined whether a certain worker or brigade can combine auxiliary functions, can service several machine tools, and carry out certain repair, setup and transportation functions.

One of the important conditions for increasing the shift coefficient of the workers is further mechanization of the production processes and kinds of work, on the basis of which a significant number of people occupied in low-productivity manual labor can be released. According to the latest statistical data, the number of persons employed at manual labor in industry amounts to 9.5 million persons; moreover there are more loaders, unloaders, movers and subsidiary workers than there are workers in such professions as metal lathe operators or machinists of all specialists. Transferring these categories of workers to more productive operations by means of replacing their labor with machines would create the possibility for increasing the shift coefficient.

Mechanization of auxiliary functions is a significant reserve for attracting additional personnel to man unused equipment in basic production. Calculations show that a mere 10 per cent reduction of auxiliary workers and their transfer to the basic shops would permit increasing the shift coefficient by 15-20 per cent. Additionally, furnishing the metal-cutting machine tools with goods handling equipment, mechanization and automation of general plant and shop warehouses, shelving, mechanization of gathering up metal shavings, and so on, would help to free the workers from labor-intensive manual operations, reduce equipment idle time, and improve the shift system.

And there's more. Paying for them will, in our opinion, promote the more effective use of basic resources. An association (or enterprise) pays for them in the amount of six per cent a year of the value of these funds. The payment is collected both for operating equipment and for that which is not installed, which should increase the collective's interest in reducing the amount of basic resources not in operation. However, practical experience shows, that this does not take place. The reason, evidently, is that the underemployed shops and plants do not hurt the pocketbooks of the managers. As is well-known, the administrators of the ministries, associations and enterprises may transfer orders from one enterprise or shop to another. At the same time they do not have to be especially concerned over how to best organize production, and eliminate idle time for equipment and workers.

Evidently the time has come to change the existing system, and it is first of all necessary to sharply increase the amount of deductions from the value of the funds, and to make this more differentiated, deducting a greater

percentage for non-operating equipment. It is also worthwhile to examine the question of increasing savings by paying for the assets which remain at the enterprises upon fulfilling the production plans, and receiving profits with a smaller amount for basic production resources than the plan calls for. All of this should force the economic administrators to be concerned with the most complete utilization of the equipment on their list.

Social Factors

Increasing the shift coefficient for equipment operation and in this connection putting it on a two-shift and in some cases a three-shift regimen is not only a technical-economic but also a social problem, the solution of which is complicated at the present time by the shortage of personnel. Under these conditions the workers frequently give preference to those enterprises and organizations at which a one-shift system is in operation. Sociological reserach conducted at a number of enterprises showed, on the one hand, that the majority of the workers fully understand the need for multi-shift use of equipment, and on the other hand disclosed the reaons which hinder the organization of labor on the second and third shifts.

These include: services of plant administrative workers are lacking in places, which complicates effective solution of current production problems; poor provision of service by auxiliary shops (electric power, repair and others) on the evening and especially on the night shift, which quite often leads to stoppages; poorer lighting and heating in the buildings; difficulty in organizing food and medical services and so on; difficulties with transportation, and with child-care institutions, especially in the large cities. And the latter quite frequently leads to a situation that people leave their shift ahead of time in order not to be late for the last streetcar or bus; and many cannot work on the second or third shifts, because kindergartens and nurseries are not operating during those hours.

At machine building enterprises the basic mass of the highly-skilled workers (56-77 per cent) work only on the day shift. For the most part these are middle-aged or older as well as the more experienced and disciplined people. As a result on the evening and night shifts there is a significant increase in breakage and the number of unfinished production norms.

There are a number of negative aspects to the tendency to staff the evening and night shifts basically with young people. Apprenticeship is poorly developed on these shifts, and the young people naturally become dissatisfied with their work; hence there are violations of production and labor discipline and worker turnover increases. Apparently the enterprises and associations must strive to staff the shifts with equal effectiveness, according to age, professional and skill qualities, based on the planned production volume and complexity of the work. This will permit better balance in the number of work positions and the available manpower and fuller utilization of the potential production capabilities.

The question of increasing supervision on the evening and night shifts is extremely serious. The system which has traditionally evolved at the enterprises ensures normal control over the sections and shops chiefly in the

daytime hours. Shortcomings in labor and production organization leads to the situation where the foremen frequently cannot carry out their basic functions during the evening and night shifts, because they have to replace workers. At a number of enterprises, they spend about 30 per cent of their time for such purposes and at night, about 40 per cent. It is not surprising that many engineering and technical workers do not want to be foremen.

According to data from research conducted at power engineering machine building enterprises in Leningrad, those who wish to work on the evening and especially the night shift are becoming fewer every day; moreover, as practical experience shows, the problem is not solved by differential pay for night work, nor by other privileges. Certain sociologists explain this by the growing level of well-being, and the reluctance to be uprooted from one's family. At the same time one cannot agree with those specialists who consider that working the evening and night shift contradicts the need for the collective's social development. Such a one-sided approach to social problems seems unrealistic to us. Intensification of production and increasing its effectiveness are impossible without complete utilization of the production potential which has been created in our land. And that means that there is no other source for increasing the workers' standard of living, or to satisfy the growing needs of the people, except accelerating the growth rate of the economy, and increasing the national income. And developing a workers's personality implies above all that he takes a conscious and creative attitude toward labor, and assists in improving the quality of the productive forces and using them more completely.

The problems of increasing shift work require a significant amount of attention to working and living conditions, especially on the evening and night shifts. In order to study these questions, a written survey was taken among workers of various professions at machine building enterprises. The survey took in over one thousand people. From the data derived it is clear that 19.5 per cent of the workers surveyed work one shift; 65 per cent work two, and 15.5 per cent work three shifts. The majority of them do not experience special difficulties with shift work. But here one must stress that the majority of the workers work on two shifts. And those who are always on a three-shift system do not like it. An absolute majority of the workers in such professions as pourer, heat treater, reheater, drop forge operator, and shot-peening operator, for whom a three-shift schedule was introduced, spoke out against it, explaining it in terms of increased fatigue in the evening and nighttime hours, dissatisfaction with operation of public transportation, and in terms of their family situation (the presence of children, other members of the family being employed on other shifts, and so on). Students and those taking correspondence courses also are opposed to such shifts. From the data of the survey it is clear that women are the most opposed to shift work, which is completely natural, since many of them have to take care of children. And after all, they get the lion's share of the domestic chores. And naturally, poor transportation operations in the morning and evening hours disturbs women of all ages.

While filling out the survey forms the workers made a number of suggestions, the purpose of which was to create favorable conditions for increasing shift work. Thus, 20 per cent of those surveyed in the Kirovograd Krasnaya Zvezda

production association pointed out the need for solving certain problems in the area of labor and production organization, and in particular, significantly improving work in the procurement shops, organizing in them standard reserves for cast and stamped stock items; establishing rhythm and ensuring equal workloads for the basic shops in the course of a shift (especially the evening shift); also, quality and timely repair of technological equipment; and reducing the amount of manual labor. A significant part of the suggestions concern working conditions. It was proposed to install in the basic shops new general air handling and exhaust-ventilation systems, and to regulate the existing ones; to eliminate the gas odors in the foundry and heating shops; to procure modern means of protection against the effects of high temperatures; and to provide the workers areated water. Such measures are being implemented, but so far slowly. The same applies to the regulation of public transportation operations.

The research has shown, that to a significant degree the enterprises can cope with the problems of increasing the shift coefficients; however, many questions (operation of transportation, pre-school children's institutions and schools, the service sphere, providing housing, and the incentive system) must be resolved jointly with the local authorities. One must also take into consideration the work regimens adopted at neighboring enterprises. If all neighbors remain on a one-shift system, then the enterprises at which a two-shift and three-shift schedule is introduced will experience a sharp turnover in its workforce. One must, of course, also take into account the fact that there are several workers in many families, and the schedules should be drawn up in suc a way that they do not have a negative effect on their home life and on the children's education. Consequently, the problem of increasing the shift coefficient in machine building should be solved comprehensively, taking into consideration all the production and social factors.

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LABOR

OFFICIAL SUPPORTS NEED FOR 'MOONLIGHTERS'

Moscow SEL'SKAYA ZHIZN' in Russian 6 Jan 85 p 2

[Letter to the editor by Yu. Vlashin, construction brigade leader from Transcarpathia: "Give the Word to the 'Idler'"; Response by V. S. Suslov, deputy chief of the Oblast Agricultural Production Association, Kirov Oblispolkom]

[Text] Dear editors! In one of the local newspapers I read the article by the deputy rayon public procurator in which he analyzed the state of legal propaganda, knowledgeably exposed the reasons for infractions of labor legislation, and clearly explained many other things. The article was correct, but I am in decisive disagreement with one of its conclusions.

"A large role in the crime rate," writes the author, "is played by traveling brigades of builders, idlers. Receiving large sums of money, they often get drunk, involving the local population, and where there is drunkenness, crime is not far behind..."

While prior to this the justice worker confirmed all his thoughts with facts, this line turned out to be unfounded...

I do not argue with the fact that among those who come to the non-chernozem region from the southern part of the country there are some dishonest people. However, I dare say that any disruptions of labor discipline are punished within the brigades by the workers themselves. The transgressor, as a rule, is made to understand that he has no place in the collective. Be off "in all four directions"... And they will even send a letter to his kin.

And in general, who is the idler? It is he who tries to grab a sweeter portion for himself without putting in enough work. The one who tries to cheat, to swindle, as they said in the olden days. Isn't this so? And if honest people are hired who with the sweat of their brow want to earn good money (and receive it for their labor!), what kind of idlers are these?

It is true that we earn good money. But each of us works for two or three people. This is no exaggeration. There was once this case. At one of the kolkhozes in Khalturinskiy Rayon the local builders gave my work brigade a hostile reception. "Give us the same wage rates," they said to the administration, "and we will build several facilities over the summer with the same work output as these newcomers."

The kolkhoz chairman was happy. "The rates, fellows, are the same for everyone here. We will provide you with building materials. Go ahead! Here is the documentation for two cow sheds. You will build one, and the newcomers the other. The final payment will be in accordance with the finished facility."

We began to compete with great ardor. At 6:00 a.m. we would be going to work, and the locals would already be hammering away. At 9:00 we would stop for breakfast, and they would be eating their food dry. We would stop work with the sunset, and they would continue on without any breaks.

The next day it was the same thing. After a week, three out of the five arrived for work. In 10 days the brigade leader was left alone. Some complained that their back hurts, some had pains in the shoulder. They went on sick leave. One young, broad-shouldered man said openly: "Why should I work 15 hours a day? No television and no dancing!"

Well, let's not judge them harshly. The locals have their own reasoning. They have a uniform work load all year (at least those who want and like to work). We, on the other hand, come from densely populated rayons of the country. In the wintertime we do not work very hard at home. But we prepare ourselves for the long summer days so that we will not have to watch the clock. We do get tired, words cannot describe, but after all this is why we come -- to get tired! And to earn good money. What is reprehensible about this?

And there's no boozing or long breaks. Let those unconscientious ones who only want to fulfill the shift norm, who don't care if the house is built crooked, "drag out the rubber" [waste time]. We too had some among us who liked the large ruble, which one can earn here without great effort. We very quickly showed them the door...

Take, for example my brigade. There are five of us, including me and my wife. Yuriy Dan, Dmitriy Komarov and Valeriy Kraynov are all married and have families. We are all from the village of Sredne-Vodyaniy, from Transcarpathia. In our Kolkhoz imeni 1 May there are many people and there is not enough carpentry work for everyone. And so for about a decade we have been coming to Kirov Oblast. My wife, Anna Mikhaylovna, cooks. All summer our children, Anya and Yuriy, who attend school, spend with us. The oldest is only 11, but they will be good helpers for us. They will not grow up as softies.

Every member of the brigade not only knows how to use an axe and a saw. Each of us can operate a tractor or drive an automobile, operate a welding torch and has more than a nodding acquaintance with the farrier trade. Things are going well. Ask any of the kolkhoz and sovkhoz managers in Khalturinskiy Rayon. No one has a bad word to say about us. It is true that once due to an oversight we allowed faulty workmanship, but we corrected it immediately. We apologized and, of course, re-did the work at our own expense.

In the winter months the brigade prepares building materials. We try to foresee everything. Therefore there are rarely problems in the summer. We start work at 6:00 a.m., have breakfast at 9:00 a.m., take our lunch break from 1:00 to 2:00 p.m., and have dinner when the sun sets. We have 6 hours for sleep. Sunday is our day off. There is no time allowed for breaks. Thus,

in total work time each work week amounts to one-and-a-half to two. When we submit the facility each man earns 500, and sometimes up to 800 rubles a month. But the rubles are not gifts! The rubles are "big" only because of the long work days.

Two of my brothers are also brigade leaders in building collectives, one in Orichevskiy Rayon and the other in Zuyevskiy. My sister Yelena prepares food for the builders' brigade in Uninskiy Rayon. It is understandable that each of us values not only the honor of being a builder, but also preserves the pride of the family and tries to present a good image in the eyes of the Kirov residents.

I know that the brigade of Vasiliy Smykalo also works honestly in Khalturinskiy Rayon. Today we work side by side with them in the Klenovitskiy sovkhoz. We see how its director, N. Sokovanov, is trying to keep the farm from falling behind. We are helping him in this great desire, especially since we ourselves have become involved with this farm and become akin to it.

I titled my letter by intentionally referring to myself as an idler, as is so often done in speaking of newcomers. But what kind of idler am I? Today this word is not distinguished from the concept of "hack-worker". Why do they call us this? Why do they try to make everyone fit into the same pattern? It is painful! If self-seekers come in, then get rid of them. We follow an honorable path.

RESPONSE BY V. S. SUSLOV

I agree with much of what the letter's author has to say. Work away from home is not considered to be dishonorable in our part of the country. In ancient times thousands of Vyatsk peasants went away on fishing expeditions or to mines to earn money to buy clothing, shoes, tools, cows or horses. They went away in the winter, when agricultural production was seasonal.

Today there are no periods of production slack either in the fields, on the farms, or in the shops in our area. There is an intensive work rhythm year-round. At the same time it is no secret that in recent years many villages have experienced a shortage of manpower. It is true that the measures taken by the party and the government in the 10th and in the current Five-Year Plans have had a favorable effect on the state of affairs. The population has stabilized, and the outflow from the villages is compensated by a reverse influx from the city. And the outflow itself has already stopped in a number of villages, primarily due to the development of residential construction and socio-cultural facilities.

Nevertheless, there is a manpower shortage at a number of farms. Yet much remains to be built, while the method of operation using the farm's own resources is still the order of the day.

Here are a few figures. In the years of the current five-year plan, 613 million rubles worth of fixed capital has been introduced into operation in the oblast's kolkhozes and sovkhozes. Of this, over half was built by the method of operation

utilizing the farm's own resources. Every year the kolkhozes and sovkhozes assimilate 90-100 million rubles for construction-installation work by this method. Of course, we are putting forth all possible effort to develop the capacities of the subcontracting organizations and striving to see that they sharply increase their construction volume. However, in the next few years the kolkhozes and sovkhozes will not be able to do without expending their own efforts at construction sites.

Brigades which come in from outside usually prepare their own building materials, provide their own special clothing and tools, and erect the facilities from start to finish. Last year there were almost 9,000 outside builders who had come to work at our agricultural facilities. There were 218,000 square meters of residential housing and many kindergartens and clubs built through their efforts.

The absolute majority of the outside work brigades are diligent, try hard and are conscientious. I know the work brigade of B. Onuchin in that very same Klenovitskiy Sovkhoz. He himself is a first-hand carpenter. Because of illness he was forced to leave teaching in a city vocational-technical school, and for several years he has been building houses in the sovkhoz. His son served in the army and now works together with his father.

Together with I. Kozhemyakin and A. Sedel'nikov they build houses which are really reliable and attractive. One is not sorry to pay for such work. Not to overpay, but to pay for work actually performed, for skill.

Unfortunately there are also those among the visiting work brigades who are not opposed to grabbing in their own interests, without any thought to the public interest. It is sad to admit, but most often the farm managers themselves are guilty in these cases. Measure seven times, reconcile with the standards and regulations, and only then submit the facility. And get to know the people to whom you entrust construction!

For many years it was the farm managers themselves who established contacts with the leaders of the visiting work brigades. They paid for the work, we will say directly, as best they could. Throwbacks of this "order" are still evident, but there are much fewer of them now. At the beginning of last year, the oblast agricultural administration, working in conjunction with the oblast office of the Gosbank and the agricultural worker's professional union obkom, developed a precise order of wages paid for construction of facilities in rural areas. The basis for this was the Standard Agreement ratified by the USSR State Committee on Labor and Social Questions and the AUCCTU Secretariat on 24 May 1978, but with consideration for local conditions. Now the managers of all kolkhozes and sovkhozes have a unified standard document regulating the amounts and types of wages paid to visiting building brigades. There is more order, and no more grounds for various abuses.

Also, there can be no doubt that such brigades as the one described by the author of this letter, as well as many others, work well and honestly and that they do not deserve to be called idlers. I believe that Yu. Vlashin was somewhat hasty in saying that they are all "molded into the same pattern." At least, we do not do so here. We bestow honor according to work performed!

12322
CSO: 1828/67

EDUCATION

SPECIALIZED SECONDARY EDUCATION IN UZBEKISTAN DESCRIBED

Moscow SREDNEYE SPETSIAL'NOYE OBRAZOVANIYE in Russian No 12, Dec 84, pp 20-22

[Article by M. S. Sultanov, deputy minister of Higher and Secondary Specialized Education, Uzbek SSR: "The Uzbekistan Secondary Specialized School"]

[Text] Soviet Uzbekistan greeted its glorious 60th Anniversary in the flower of creative forces. Under the guidance of the Communist Party and with the fraternal assistance of all the Soviet nations, most of all the great Russian nation, the Uzbek Soviet Socialist Republic became firmly established and prospered in a short historical period.

Uzbekistan's achievements are a most vivid testimony to the historic victories of the CPSU's Leninist national policy and to the inviolable friendship of the Soviet people.

Energy, chemical, oil, coal, gas, mining, metallurgy, aviation, electronics and machinebuilding industries define the industrial capability of present day Uzbekistan.

Pre-revolutionary Turkestan was a backward outlying district of Czarist Russia. Almost 90 percent of its population was engaged in agriculture. Hunger, poverty, ignorance, sickness, absence of civil rights and the arbitrariness of emirs, khans, bais and clergy, who were actively supported by czarist officials -- this was the lot of the simple toilers.

The Great October Revolution opened the way to a new and happy life. Today Uzbekistan is the beacon of socialism in the East. Leninist national policy led to a rapid and all-round rise in all areas of the republic's economy, culture and education.

The intensive development of all branches of the republic's economy facilitated the desire of the broad masses to obtain education and especially professional knowledge.

The years of the first five-year plans [FYP] are characterized by the development of a network of secondary specialized educational institutions. This period saw the organization in Tashkent of the communications

polytechnical school, railway transport technical school, industrial technical school, pedagogical pre-school and city medical and musical schools and the library science technical school. It was also the time of the development of the Samarkand cooperative technical school, Margilan and Kattakurgan pedagogical schools, Nukus and Kokand medical schools, Namangan and Bukhara musical schools and other educational institutions.

The Great Patriotic War interrupted the peaceful labor of the Soviet people. But despite the war the party and government constantly devoted attention to the development of secondary specialized education. Women's pedagogical schools were organized during the war in Bukhara, Kokand, Samarkand, Tashkent and Khiva. During these years the Tashkent aviation and industrial-pedagogical technical schools and the Chirchik industrial technical school were opened.

Simultaneously with the opening of new educational institutions, previously existing schools and technical schools were developed, the number of students was increased and training of cadres in a number of new specialties was begun.

The post-war period saw the greatest results in training of middle level specialists. Whereas in 1940 all schools and technical schools trained 3,300 people, in 1950 7,000 were trained. In 1983 the number of specialists who graduated reached 74,100.

Secondary specialized education in the republic received its most intensive development in accordance with the CPSU Central Committee and USSR Council of Ministers decree, "Measures to Improve Further the Leadership of Secondary Specialized Educational Institutions and to Improve the Quality of Training for Specialists With Secondary Specialized Education." The rapid penetration of the achievements of science and technology into the economy was reflected in the accelerated modernization of the content of secondary specialized education. The types of specialties changed; training of technicians in energy, instrument making, machinebuilding, electronics and computer technology began. The industrialization and electrification of agriculture and animal husbandry led to the creation of large secondary specialized educational institutions of a new type -- sovkhoz-technical schools.

The training material base for secondary specialized educational institutions also developed along with the scale of cadre training. This is indicated by comparing monies involved: In 1971 the quantity of capital investments for construction of training and residential buildings equalled 6.1 million rubles; in 1984, 36.8 million rubles. During the 9th, 10th and first three years of the 11th FYPs, 202 million rubles were spent on construction of facilities for educational institutions. Basic capital assets of secondary specialized educational institutions amount to 330 million rubles. Shared participation of union and union republic ministries and departments facilitated the intensive development of the training material base for schools and technical schools. Between 1973 and 1984 the republic Minvuz [Ministry of Higher and Secondary Specialized Education] obtained 135.6 million rubles from them.

The task of improving the quality of specialist training, set by the 26th CPSU Congress and the June 1983 and April 1984 CPSU Central Committee plenums, requires not only that the students be armed with excellent professional knowledge and practical skills, but also that they develop a Marxist-Leninist world outlook and be taught high moral qualities.

Teachers of social science disciplines have an important role here. Schools and technical schools are carrying out a major effort to improve the teaching of social science disciplines and to organize and improve the systematic upgrading of the qualifications of teachers of social science disciplines. In accordance with the decisions of the June CPSU Central Committee plenum, the pedagogical collectives of secondary specialized educational institutions are improving the ideological and theoretical level of the teaching of social science disciplines, are developing interest in their study in every way possible, are devoting more attention to monitoring the quality of the training of social science teachers and are seeing to improving their qualifications.

The work of the basic secondary specialized educational institutions to improve the ideological-political, pedagogical and methodological level of teachers, summarize and disseminate advanced pedagogical experience and introduce effective training means and methods is being further developed. The switch in moral education to an emphasis on final results necessitates strengthening the link between the moral educational and vocational training processes and intensifying the sequential interrelationship between the process of education in world outlook and vocational training for cadres.

Great attention is being paid in the republic to improving the ideological-theoretical and pedagogical skill of the young teachers. For this purpose, seminars are being conducted, tutorship is being successfully developed, instruction booklets are being published, help is being given in preparing methodological materials and lessons, and lectures by prominent scholars and specialists in particular fields of knowledge are being organized.

The Russian language, the language of international contact among the peoples of our multinational Homeland, plays an invaluable role in the social and political drawing together and uniting of all the nations and nationalities in our country and in developing their economic cooperation and cultural mutual enrichment.

The Russian language is the language of the great Lenin, the language of the world's first socialist revolution and the language of Russian literature, which has entered the world treasure trove of culture. The role and importance of the Russian language is steadily growing in the period of developed socialism.

The Uzbek Communist Party and the republic government devote constant attention to matters of learning and teaching the Russian language.

Out of 262,000 students in secondary specialized educational institutions, 123,400 are studying the Russian language as an independent subject. Moreover, 92,000 students of non-Russian nationality are studying all subjects

in their curriculum in Russian. Methodological associations of Russian language teachers in secondary specialized educational institutions have been created in all oblast centers and large cities. The associations include 974 teachers of Russian philology.

In connection with the shift to teaching according to the new training plans, to improve language training the amount of Russian language study by national groups in schools and technical schools was increased to 250 hours beginning in the 1983-1984 school year with the permission of USSR Minvuz. Of this, 100 hours are devoted to studying Russian literature (in groups based on 8 grades).

For students accepted into national groups after completing the 10th grade, 120 hours are devoted to Russian language study. Groups numbering more than 25 students are being divided into two sub-groups for Russian language study.

The republic is publishing specialized textbooks and training aids on Russian language and literature for secondary specialized educational institutions, the authors of which are scholars from the leading VUZes and experienced school and technical school teachers. In particular, a group of Russian language teachers under the leadership of Professor Safayev is now working on a new textbook based on an experimental pilot Russian language program for national groups in secondary specialized educational institutions in the union and autonomous republics.

To improve specialist training, a great deal of attention is being paid in Russian language classes to the language tie-in with the specialty. Specialized texts, grammar lessons and dictionaries are being compiled.

Russian language study is also one of the most important means of communist and internationalist education. Already the fact that students in training groups are studying 3-4 semesters of Russian literature and students in Russian groups during this time study a course in Uzbek literature helps to inculcate in the students a feeling of internationalism and a feeling of fraternal solidarity and friendship between the Russian and Uzbek peoples, teaches the Uzbeks to know and understand Russian culture and literature, and the Russian students to know and understand the cultural achievements of the Uzbek people, beginning with the poetry of the great Uzbek poet, (Alishera Navoi), and concluding with the works of such talented Uzbek Soviet poets and writers as (Khamza), (Khamid Alimdzhan), (Aybek), (Zul'fiya) and others.

Russian language lessons in Uzbek groups use texts having patriotic content; this helps the students not only to master Russian, but also brings them up in a spirit of loyalty to the Homeland and love for their home region and tells them about the building of socialism in Uzbekistan, the freeing of Uzbek women from bondage and the heroism and courage of the Soviet people during the Great Patriotic War.

The Russian language is not only a means of contact between our peoples in work and everyday life, it is also the common language of the Soviet Army. In view of the tremendous importance of preparing the younger generation for service in the Soviet Army, groups of local youth of draft age have been

created in each oblast in the republic for study of the Russian language. Fluency in Russian must become the norm for young people completing secondary specialized educational institutions.

Schools and technical schools are paying a great deal of attention to forming a Marxist-Leninist world outlook in the students, which is the basis for teaching them to have an active stance in life. This task is being accomplished both in the classrooms and in all forms of extra-curricular work.

Teachers of social and economic topics are developing unfailing interest in the students in the thorough study of the works of Marxist-Leninist classics and party and government documents, owing to the uniting of theoretical provisions with real life and with the practice of building communism.

Modern scientific-technological policy is inseparable from a scientific approach to solving economic and social problems. It is natural, therefore, that the June 1983 and April 1984 CPSU Central Committee plenums made forming economic thinking of a new type in cadres a full-scale task. In the light of this, it is necessary to improve fundamentally the teaching of economic disciplines, including socialist political economy, to strengthen the link between theoretical and practical training of specialists in this field and to impart to the students skills in organizational work in primary production elements.

Particular attention must be paid to improving the quality of specialist training for the leading economic branches (energy, metallurgy, mining, machine building, instrument making, construction, transport, communications, agriculture).

In summarizing the tasks stemming from the decisions of the April 1984 CPSU Central Committee plenum in the area of improving the quality of specialist training, it is necessary to note that the shift to the new training plans must be combined with well thought out measures of a long-term nature for the comprehensive improvement of the structure and content of the training and educational process for all specialties in secondary specialized schools.

We are striving to see that school and technical school graduates possess not only new ideas in their fields, but also the results of the latest research and of its introduction into production, and that they serve as bearers of the creative achievements of their educational institutions. They can receive these achievements only from their teachers, who must live active, intense creative lives.

There is much to be done in such spheres of the work of secondary specialized schools as admission of students and distribution of young specialists. It is necessary to guarantee the full use by the young people of their rights to education and labor, and to ensure the effective use of the cadre potential formed by the secondary specialized school.

The basic thrusts of the reforms of general educational and vocational schools, approved by the CPSU Central Committee plenum and the USSR Supreme

Soviet, are the party's strategic policy in the area of people's education. The necessary prerequisites have been created to raise the activity of secondary specialized educational institutions to a qualitatively new level that meets the high demands which the party is making today in all aspects of the life of Soviet society.

The pedagogical collectives in the secondary specialized educational institutions of Uzbekistan are sparing no efforts to multiply their contribution to social-economic and scientific-technological progress and to the preparation of specialists for the economy who are able, on the level of the increased demands of our day, to solve the complex tasks of improving the effectiveness of social production.

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EDUCATION

DISCUSSION OF ENGINEER TRAINING CONTINUES

Assessment of Discussion

Moscow SOVETSKAYA ROSSIYA in Russian 12 Sep 84 p 3

[Materials of RSFSR Ministry Collegium of Higher and Secondary Specialized Education were prepared for the press by M. Kushtapin: "An Engineer of the 21st Century"]

[Text] From December 1983 to August of this year, materials under the heading "An Engineer of the 21st Century" were printed on the pages of SOVETSKAYA ROSSIYA. In articles by personnel of higher school, party and economic managers, problems were raised on training of engineers meeting the requirements of a new stage of the scientific-technical revolution. A wide range of questions, on the solution of which raising the quality of specialist training depends, was discussed.

The topic found a lively response among our readers. The editorial office received a very large amount of mail in which engineers, teachers, economists, heads of enterprises, scientists and students actively continued this theme. Today we complete the discussion with a report from a meeting of the collegium of the RSFSR Ministry of Higher and Secondary Specialized Education and thank those who took part in it.

Opinions

Deputy Chief of the Main Administration of Technical VUZ's V.P. Shedov:

"A very interesting and necessary discussion has been held on the pages of SOVETSKAYA ROSSIYA on the problems and tasks of higher school. First of all, it is necessary to point out its timeliness. The authors of the publications showed convincingly that higher school is at the beginning of a qualitatively new stage of its development, requiring critical generalization of prior experience and new organizational and pedagogic ideas in the organization and further improvement of the training and education of an engineer.

It is important that in the course of the discussion attention was directed to a number of most promising directions of technical education. I have in mind

the paper's stress on the need of strengthening basic training, greater specialization and goal-oriented direction of vocational training.

"But, as the participants of the discussion accurately pointed out, initiative, creative search and promising forms of training sometimes run athwart juridical, organizational and operational barriers that hinder and even completely obstruct many useful and effective initiatives. Let us take, for example, the same affiliates of departments, educational scientific-production complexes and other inter-VUZ subdivision. To this day they have neither juridical nor economic status. I would hope that these questions, expressed argumentatively on the pages of the newspaper, would draw the attention of the Ministry of Finance and the Ministry of Justice and assist them to look at the needs of higher school from today's positions and to revise those positions and paragraphs which have become manifestly obsolete.

"Now apropos that which directly pertains to our ministry. In the "round table" discussion in Krasnoyarsk "A Diploma Is not Exactly a Crown," and in several other publications as well, doubt was cast on the objectivity of criteria of evaluating the operation of VUZ's. I can report that the Main Administration of Technical VUZ's has turned to a number of institutes with the request to form creative groups from among leading scientists for the purpose of working out unified formalized criteria of evaluation of the operation of the VUZ as a whole and of training of specialists in particular. As of now 20 institutes have embarked on this work."

Deputy Minister V.P. Usachev:

"I am convinced that the serious and thorough analysis of problems touched upon in the heading "An Engineer of the 21st Century, has not left personnel of higher school indifferent.

"I only emphasize that more than 5,000 doctors and more than 50,000 candidates of sciences work in higher school today. Nonetheless, we are forced to agree with criticism in the newspaper that scientific-pedagogic personnel of higher school still weakly familiarize their students with modern production and mastery of the latest achievements of science and technology. We need to seriously concern ourselves with the scientific and practical store of knowledge of instructors and to reorganize the system of upgrading qualifications. In this regard the RSFSR Ministry of Higher and Secondary Specialized Education is already doing a great deal. At faculties for upgrading of qualifications, much attention has begun to be paid to computer technology, flexible production operations and work games. In the very near future, all instructions of special departments will have to undergo training on the job at leading enterprises and scientific-research institutions. Plans of training graduate students will change significantly. On acceptance of a graduate student program for many specialties of technical and social and public directions, production and public work experience will be come obligatory. Graduate-student studies and dissertations will maximally approach real needs or production and science.

"What have I not been satisfied in publications of the newspaper? In my view, the following question should have been handled in greater detail: forming in

the student the need for self-improvement, constantly adding to his knowledge, skills and experience and inculcating civic maturity and responsibility for study. Today all of us need to think of bringing into the educational process active forms that make it possible to introduce the student to the search for knowledge, to creativity and to work. This, unfortunately is lacking in many students."

General Director O.M. Petrov of the Cost-Accounting Scientific Association of the RSFSR Ministry of Finance:

"It is hard to underrate the scientific work of the VUZ in the formation of professional and general educational qualities of future secialists. Literally all authors of the publications see tremendous reserves for raising the quality of training of future engineers in closer ties of science with the educational training process. The association today is undertaking measures for making a transition from small contracts at the "enterprise-VUZ" level to a system of orders at the "sector-association" level. In this connection, one must agree with the opinion of the rector of Bryansk Technological Institute, Ye. Murakhtanov, given in the article "Department in the Shop" to the effect that the Cost-Accounting Scientific Association does not contribute to the development of science in VUZ's and does not engage in departmental cooperation in scientific-research work."

Deputy Minister A.I. Popov:

"Many of our problems stem from the fact that we train engineers, so to say, on a mass basis but use them on an individual basis. This gives rise to a multitude of problems in the relations of the VUZ to the user. We must derive conclusions from the critical comments addressed to us, especially those that fairly reproach us to the effect that we teach the future engineer little on working with people and that we pay insufficient attention to questions of organization of production and to the breadth of the future engineer's economic thinking. On the other hand, we cannot but help be concerned with the developed practice of use of our graduates. It often happens tht a young specialist is assigned the most simple of work. While he is overcoming all the bottom steps of his profession, his knowledge as a rule becomes obsolete, and he often loses the creative 'fire.'

"Economist G. Kulagin came out for introducing into practice diplomas of different categories. This proposal has many proponents and also many opponents. I am on the side of those who are for a more differentiated approach in distribution of VUZ graduates. They all can have the same diploma, but in regard to the insert in the diploma on the basis of which personnel departments could get an idea of the capabilities of the young specialists, there is reason for doing some thinking. I should like to express my gratitude to SOVETSKAYA ROSSIYA for the timely character of the publications and wish that they would not forget in future materials on training of engineers that the VUZ prepares not just a specialist but first of all a citizen, a man of socialist society."

Commentary

Statement of RSFSR Minister of Higher and Secondary Specialized Education Academician I.F. Obraztsov:

"The questions raised in the articles and readers' letters are pertinent not only for higher schools but on the whole for all sectors of the national economy. Concerns relating to the effectivenes of the work of higher school, civic and party responsibility for the development of public production and scientific-technical and social progress are the chief prompting motive for the active statements of all the participants of this useful discussion.

"The comments and proposals expressed in the articles will be taken into account in the ministry's practical work and in working out Basic Directions of the Development of Higher School in the RSFSR for 1986-1990 and for the Long Term to the Year 2000, which the ministry has started on. It is planned: to prepare proposals for the USSR Ministry of Higher and Secondary Specialized Education on increasing to 250-300 the number of hours set aside by study plans for the disposition of VUZ councils so that each VUZ could flexibly react to the constantly changing requirements of sectors of the national economy in regard to the quality of training of specialists and on the introduction of qualifications for a number of specialties: engineer-organizer, engineer-researcher, engineer-designer-technologist; to organize author collectives for the preparation of textbooks and educational aids for new courses and also for reworking previous textbooks (for traditional disciplines), taking into account the introduction of electronic computers in the teaching process: to work out plans of regulations regulating the operation of educational scientific-production complexes and inter-VUZ subdivisions. It has been proposed to a number of VUZ's to form creative work groups for the purpose of working up criteria of evaluation of VUZ operation as a whole and of training of specialists while taking into account their preparation for independent work under real conditions of production, scientific-research institutes, design bureaus and so on.

"The ministry supports proposals on the feasibility of turning over individual departmental VUZ's to the system of the RSFSR Ministry of Higher and Secondary Specialized Education, for example, the VUZ's of the RSFSR Ministry of Personal Services (it has a total of 4 VUZ's), the RSFSR Ministry of Trade (2 VUZ's), the USSR State Committee for Vocational and Technical Education (1 VUZ) and so on. As for specialization of VUZ's, it at the present time is being carried out to a significant extent.

"The Ministry fully shares the opinion expressed by practically all the participants of the discusion that under conditions of rapid growth of production and its continuous technical reequipment the expansion of ties with sectorial ministries and enterprises and organizations subordinated to them are of utmost importance to VUZ's. The further successes of higher school will largely depend on the degree to which these ties are worked out and turn out to be effective.

"The creative cooperation of VUZ's with enterprises and associations contributes to the development of ideological conviction, bolstering of special training of students and renewal of teaching materials together with renewal and development of industry and equipment of VUZ laboratories with modern instruments, apparatus and equipment. Thus the Moscow Institute of Radio Technology, Electronics and Automatics, employing the renowned experience of Moscow Physico-Technical Institute, established close ties with sectorial ministries, is carrying out training of specialists according to designated purpose and has created base departments and also is attracting specialists of enterprises to teaching work at senior courses. Studies with students are conducted directly in laboratories and departments of base enterprises. Course and diploma planning are conducted solely on the basis of real assignments. Practically all graduates are assigned to the same production units, laboratories and departments, which eliminates the 2-3 year period of adaptation. Just in the years of the 11th Five-Year Plan, the USSR Ministry of Communications and other ministries turned over to the institute approximately 8 million rubles for the development of its base.

"We have generalized the experience of leading VUZ's in training specialists in accordance with the long-term tasks of the national economy and studied the opinions of heads of enterprises and graduates of VUZ's on the quality of their training. Beginning in 1984 experimental special-purpose training of specialists was started at 17 VUZ's in 26 specialties. The training provides, beginning with the first course, wide-scale employment in the teaching process covering all processes of computer technology with maximum use of various automated systems with orientation of the future specialists to the appropriate sector and the solution of concrete long-term tasks.

"The Ministry in accordance with comments on defects in the training of teaching personnel, especially of special and economic departments, is undertaking the necessary measures for their elimination. An order of the RSFSR Ministry of Higher and Secondary Specialized Eduation on improving the organization of the system of upgrading of qualifications of VUZ instructors requires rectors to organize probationary training for a period of one to three months at leading enterprises, scientific-research institutes and design bureaus. The ministry has organized three new departments for upgrading qualifications of VUZ instructors in the use of the resources of computer technology in teaching and scientific processes, while at 14 of 34 departments set up at subordinate higher educational institutions such specialities as development and operation of systems of automating planning work, automated scientific-research control systems, robots and robot technical systems, flexible automated production operations, microprocessor technology, etc. were introduced.

"G. Kulagin's article raises the question of the prestige value of an engineering education, the needs of specialists with diplomas and of their number. The ministry constantly examines and resolves problems connected with the planning, allocation and utilization of specialists. The complexity of these questions lies in the absence of scientifically based norms of saturation of sectors of the national economy with specialists with higher education. A significant portion of them, even with specialties that are in short supply, is used not according to the speciality acquired at a VUZ. At

the same time, ministries and departments actually do not bear any responsibility for improper use of engineering personnel and, quite the contrary, at times raise questions of increasing the training of specialists. All this reduces the prestige value of the calling of an engineer. In a round-table talk ("A Diploma Is Not Exactly A Crown"), V.P. Shapovalov, the director of Divnogorsk Plant of Low-Voltage Apparatus, said: "... what need have I for 10 "raw" or "uneducated" specialists--give me one, but a real, capable engineer." Quite possibly, this statement contains something that would make it possible to raise the prestige of the engineer.

"The question was properly formulated by Prorector A. Nikitenko ("Who Will Take an 'Unfavorable' Theme") on the need of developing further one of the basic types of activity of the professorial and instructor staff of VUZ's--scientific-methodological work. At the same time, one cannot understand his statement concerning additional pay for instructors engaging in methodological work. VUZ's have been given the right to use some instructors more in teaching work, others in scientific-methodological work, still others for writing textbooks and teaching aids and so on.

"We are grateful to the editorial office of the newspaper SOVETSKAYA ROSSIYA for organizing the discussion and preparing appearances by heads of VUZ's and leading scientific-pedagogic personnel and express thanks for the timely and effective presentation in the newspaper of problems of higher education and for disseminating the positive experience of leading VUZ's in the organization of teaching and the scientific-educational process."

Solutions

The collegium of the RSFSR Ministry of Higher and Secondary Specialized Education has decreed:

Heads of structural subdivisions of ministries to adopt necessary measures for the implementation of conclusions and proposals contained in publications of the newspaper SOVETSKAYA ROSSIYA under the heading "An Engineer of the 21st Century" as well as in commenting letters.

Main administrations of VUZ's, the Cost-Accounting Scientific Association and the Teaching-Methodological Administration jointly with interested subdivisions of the ministry:

--prior to 1 January 1985 to work out drafts of regulations regulating the work of educational scientific-production complexes (associations), inter-VUZ subdivisions (departments, libraries, computer centers, laboratories and units of operational printing and servicing scientific research and so forth) and to present the indicated drafts of regulations for the approval of the USSR Ministry of Higher and Secondary Specialized Education;

--to organize author collectives for the preparation of textbook and teaching aids for new courses while taking into account introduction of electronic computers into the teaching process.

Problems of Young Engineers

Moscow PRAVDA in Russian 10 Oct 84 p 3

[Article by Candidate of Pedagogic Sciences R. Rabdreyev, candidate of pedagogic sciences, docent of Kazan Aviation Institute imeni A.N. Tupolev: "The Matter of Workers. Higher School: Order for a Specialist"]

[Text] The future engineer is taught a great deal. He undergoes testing with creative work, absorbs the fine points of a dialog with electronic computers and tests himself in work games. He is educated to respect state standards and to have a deferential attitude toward metrology. He has a knowledge of laws and categories of dialectic materialism and he does not find alien the practice of economic thinking. Why is it than that our graduates on entering a real labor collective frequently are put out by the simplest of production and real-life situations?

Various reasons are given. Somebody enrolled in an institute by accident. Another lacked the zeal to study. Often you have the following explanation: the claim is that the title of engineer has started to lose its prestige value and material stimuli for technical work have turned out to be on the weak side. Well, you can't remove such a conclusion from the reckoning, for it contains reason.

Still speculations on the prestige value of the engineering profession have a weak spot. Today they essentially boil down to the fact that someone or other (Gosplan, the State Committee for Labor or the State Committee for Science or Technologyh) must offer an initiative to strengthen the tottering prestige of the VUZ diploma. But is not such a view naive? If the question could be resolved in the form of an order, the following solution would not be slow in forthcoming.

Let us try to reason: what is this prestige? Technical VUZ's in most cases fulfill plans of training specialists. What could be more prestigious for their graduates than personal individual merit and professional honor? Should, however, these qualities be lacking, no material benefits could replace them.

No, our graduates are proud. Ask around--if practically everyone does not dream of becoming a Tupolev or a Korolev, they at any rate intend to do research work and defend their dissertation. And it must be acknowledged, they on occasion express very sensible thoughts. But this aim is not individual work, personal success, and it subsequently becomes the source of many disappointments and even conflicts.

The fact is that for a long time an engineer in our country occupied a special place in production. He headed the execution of major technical and organizational measures with respect to whose progress it was necessary to make responsible individual decisions. And the great majority of workers had an incomplete secondary or an elementary education, and the level of their vocational standards was inadequate. Sometimes even technology was planned by "worker personnel."

Now the picture has changed. Workers have a secondary or a secondary specialized education. A portion of them study at VUZ's while continuing work. They subscribe to technical periodicals and familiarize themselves with recent specialized literature. They understand better many production, economic and organizational questions than newly released VUZ graduates. Raising the level of vocational standards brings in its wake growth of productive work and with it growth of earnings.

At the same time higher technical school in its desire to provide mass character to the training of specialists has found itself obliged to a certain extent to sacrifice individual methods of training them. Especially in the sphere where it has been professionally strong, namely production practice. "The 'boundary line' of knowledge and ability between workers and engineers has started to narrow down, and this could not help but influence the orientation of young people.

It is therefore right to speak not so much about the devaluation of the VUZ diploma as about the growth of prestige of workers' occupations and about being able to correctly comprehend relations betwen engineers and workers at present-day enterprises. Incidentally, this is prompted by the changes being carried out in the course of the school reform.

What measures in my view should be undertaken? First of all, it will be necessary to raise the quality of engineering training. We can say that the RSFSR Ministry of Higher and Secondary Specialized Education is conducting the following experiment in a number of its institutes. It is based on a study of wide-scale automation and mechanization of methods of scientific and technical work. But as before, there is not taken into consideration the expected growth of qualifications of workers' collectives, their performance skill and intellectual potential in the course of the school reform. And if that is so, then will there not be again a divergence between ideas of the substantive value of education in schools and vocational and technical schools, on the one hand, and in VUZ's, on the other?

In order to avoid this, it will be necessary to learn how to form in students from the first days of their stay at a VUZ a correct understanding of the expected professional duties of the future engineer and their high human purpose. There is no concealing the fact that many beginning specialists assume that their subordinates need only to be commanded. A recent student on obtaining his diploma was found unready to learn from workers (and together with them) a professional attitude toward the work. And he did not even notice that he was coming into conflict in this with his knowledge and was unable to realize it in the clear language of labor relations. How many misunderstandings, wounded feelings and labor losses could have been prevented if the starting manager had mastered the basics of production pedagogy and psychology....

True, it is believed that social-political practice is called upon to make up this deficiency. At many VUZ's the course "Fundamentals of Organizational and

Educational Work in the Labor Collective" is given within its framework. But it primarily has for its aim inculcation of independent study of political literature, mastery of methods of agitation and propaganda, learning to give a lecture and to provide political information. Of course, all this is necessary. But it does not solve the main thing that the young specialist encounters. The fact is that when he comes down from the lectern, he is forced to deal with the necessity of practical realization of the advanced positions and in general not "among the masses" but in a specific, relatively small collective. And here he frequently makes a fool of himself.

Many VUZ's have taken the path of introducing courses on the study of people ["chelovekovedeniye"],including elements of production pedagogy and psychology. Some good experience has been accumulated, particularly by Ufa Aviation, Leningrad Technology and several other institutes. But it still has net become common property. By way of justification, reference is frequently made to shortage of study time, adding that, as it were, "life itself is a teacher." But why should enterprises "bring up" the specialist to the required level?

I am convinced that the higher educational institution is wrong in waiting for some special instructions in this regard. It should solve such questions on its own. For example, last academic year, senior-class students at our institute for the first time studied the course "Psychology and Pedagogy of Construction." The students acquired a knowledge of basic laws of development and forming of the collective and the personality, styles and types of leadership, methods of resolving conflicts, education and training in production and the psychological-pedagogic features of organization of the brigade contract. In practical classes, they studied how to solve specific psychological problems arising in production. Various game situations were used, in the analysis of which we tried to develop in our students necessary qualities. Future engineers, on spending time in practice, showed a big interest in the brigade contract.

The results were not slow in making themselves felt. Already in pre-diploma practice, production workers noted the growing level of professional and social activity of our students.

It is necessary, however, to strive for a geat deal more: it is necessary that the system of student practice at enterprises, from the so-called familiarization to pre-diploma work, provide convincing lessons of interrelationships which await the future specialist in production. Then the student will make progress toward an understanding of the role that is expected of him upon completion of the VUZ and of the transition from positions of a learner to the techniques of an educator. And the obtained knowledge will be sooner included in production turnover. It is namely in this way that it is now necessary to look for a proper relation between the authority of a worker and the prestige of an engineer.

Specialist-Training Objectives Outlined

Moscow SOVETSKAYA ROSSIYA in Russian 24 Nov 84 p 2

[Interview of Prof A.P. Lukoshkin, doctor of technical sciences, rector of Leningrad institute by V. Tarasenko, Leningrad: "A Diploma... in Four Years"]

> [Text] As of this year, experimental goal-oriented training of specialists (TsIPS) for the national economy has been started in Russia at 17 VUZ's for 26 specialties. The objectives and first steps of the experiment are described by Prof A.P. Lukoshkin, doctor of technical sciences, rector of Leningrad Institute of Aviation Instrument Making.

[Answer] The study plan and program of goal-oriented intensive training were arranged while taking into account the developmental prospects of science, technology and production. Information is frequently compressed in them that has become anthological despite its importance. But then expansion of basic training through the means of new disciplines based on physics and mathematics courses has been provided. We have a new course for students--fundamentals of informatics and rationalization work. Individual forms of study will be developed where each student will have to search and think. At the same time, he will be on view, and comrades would not make a mistake in regard to his abilities. Automated training systems will find wide application in the teaching process. Students devote a lot of time to the mastery and effective work with electronic computers. This is just what many authors advocated who took part in the discussion conducted by SOVETSKAYA ROSSIYA under the heading "An Engineer of the 21st Century."

I shall not conceal that many students up to the present time, and instructors as well, are very timid when it comes to electronic computer technology. Computer illiteracy, which must be eliminated as quickly as possible, is a hindrance. But to train a specialist to deal with computers in the "second person familiar" is not an easy task. Yet it must begun to be solved as soon as possible--at the school bench. Our instructors have started to give a programming course at four Leningrad schools. And it turns out that pupils of 9th- and 10th-year classes assimilate it more quickly and easily than students. Research has also shown that the greatest successes in mastery of computer technology are achieved by school children when they are given the possibility to utilize electronic computers in their everyday work. Right now we are thinking of having pupils of 7th- and 8th-year classes come in contact with electronic computers. Here is a case where the sooner the better. A mastery of computer language unrestrictedly expands creative possibilities.

We are already training as research engineers the first hundred students studying in the new program. Such will be the inscription that will appear in their diplomas. This means that they will master the entire cycle--from the creation of a new design to the technology of its manufacture and assimilation in production on the basis of maximum processing of information and materials.

[Question] But how do you handle raising requirements in evening education for training of specialists? The fact is that the opinion exists that knowledge is less solid in evening graduates.

[Answer] First of all, a student of the evening faculty must obtain a fully adequate education. I could cite many examples where those who have graduated from the institute while working are authors of inventions and scientific discoveries. They include instructors who are candidates and doctors of sciences. But, of course, it cannot be denied that an evening education has deficiencies for which the institute itself is to blame. I am firmly convinced of the main thing--today it is impossible to train a specialist without knowing what he is designated to do. Statistics indicate that an evening student coming from production, after obtaining his diploma, remains at his enterprise. Since that is so, it is necessary in study plans to deepen and increase the hours of disciplines connected with technology of production, methods of management, economics, study of materials, reducing in this connection time spent on the study of purely academic courses, which we can say are necessary as a solid foundation for the research engineer.

[Question] Anatoliy Petrovich, your institute was one of the first to start training specialists in 4 years at the evening faculty, that is, in a shorter time than at the day faculty. How is this done and isn't it to the detriment of learning?

[Answer] Let us immediately make this clear. We so far are going to train during night school in 4 years only those who already have a secondary technical education. And this is why. Having attentively examined the study plans of related instrument-making tekhnikums, we came to an interesting conclusion. It turns out that the quality of the teaching process has markedly become higher at secondary technical institutions. Many subjects are given very fully. For example at the Leningrad Institute of Aviation Instrument Making, 80 hours are given to drafting but at the tekhnikum of aviation instrument making--250 hours. There is more different laboratory and practical work here. Why then should the same things be repeated at the institute? Or why should the graduate of a tekhnikum have to study again the descriptive part of a subject for his specialty? We mainly have approached from these positions the solution of the problem. After revising the study programs, we acquired the opportunity to unify a number of disciplines and to save 1,900-2,000 hours in this. In this way study time was reduced by 2 years. Believe me, this has not affected the quality of learning. Moreover, evening students, who are generally busy, load-carrying people, acquired more time and possibilities for deepening the study of special disciplines.

We are now admitting tekhnikum graduates immediately to the third-year course. We have them spend an intensive 2 years on fundamental disciplines based on physics and mathematics and we teach them to work on an electronic computer. They will complete the 5th and 6th year courses with those who studied beginning with the first year.

[Question] What did the examinations of students show who were studying on the abbreviated program. Did they not disclose some defects in the organization of the teaching process?

[Answer] The 4-year students now have the first sessions behind them. And some conclusions can already be made. In this category, there is an almost total absence of failures. More precisely--a 96-percent passing rate. For purposes of comparison: the group of regular evening students had an average passing rate of 70 percent. We conducted a survey in a special group, and most of the students responded to the question as to why they enrolled in the institute because they lacked the knowledge for solving production problems. All of them acquire as a minimum on completion of the tekhnikum two years of work experience. They came on the direction of the enterprises and were studying with great desire. This, of course, required in turn additional efforts from instructors, whose load was increased, with the lectures being given at a high instructional-methodological level.

But deficiencies could not be avoided at some enterprises. These evidently have forgotten about their promises and obligations to create conditions for those who study: either a student is put on the evening shift or he is sent on an assignment. Now one is concerned about how he subsequently makes up what he missed, and at times he may even hear: "After all, you are studying for yourself!" This is, of course, not proper. The momentary interests of enterprises must not interfere with normal study.

And in addition I would like for the RSFSR Ministry of Higher and Secondary Specialized Education to work out coordinated programs for tekhnikums and institutes which would be a logical extension of each other and satisfy production.

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DEMOGRAPHY

SELECTED FAMILY INCOME, LIVING STANDARD SURVEY SCHEDULED

Moscow VESTNIK STATISTIKI in Russian No 9, Sep 84 pp 30-34

[Article by Candidate of Economic Sciences D. Dumnov, chief of the Budgetary Statistics Department of the Central Statistical Administration of the USSR: "A Survey of Incomes and Housing Conditions"]

[Text] An extensive program for further improving the people's well-being was outlined at the 26th CPSU Congress for the 11th Five-Year Plan and for the 80's as a whole. This program embraces all aspects of the Soviet people's life--growth of income, consumption, improvement of housing conditions, culture and leisure, working and general living conditions.

Family budgetary statistics have a large role in the accomplishment of these tasks. A one-time selective survey has been made of family budgets for the past 4 years for the purposes of defining certain social and economic features of the life of the population: the way the population budgets its time and the opinion of the population on the operating schedules of enterprises and institutions serving the population, on the provision of consumer services for the population, the planned use of savings, the purchase of non-food goods, the personal plot, plots of land used for planting orchards and vegetable gardens and for the construction of dachas, and others.

The study of family budgets and data from other selective surveys grouped according to average per capita combined income and a number of other socioeconomic aspects, and the study of differences among various groups of the population with respect to level of material well-being are highly important. They make it possible to define the effect of the measures implemented with respect to enhancing the population's standard of living.

The next selective survey of incomes and housing conditions of blue- and white-collar workers, kolkhoz workers and pensioners for the month of September, 1984, will be conducted in October. They have been conducted periodically since 1967.

The main objective of the survey is to obtain information on the distribution of various social groups in the population and the distribution of families with respect to average per capita combined income, the structure of their income, housing conditions, the personal plot, and the provision of families with cultural and personal service items. The combined income includes all money received as earnings, wages, stipends, allowances and other monetary income and

income in-kind (in monetary terms) from kolkhozes, and the value of the net output from the personal plot. Receipts in-kind from public farming and the personal plot are assessed at state retail prices, except for the portion sold, which is considered as income in the amount of the actual proceeds from the sale of products. The sets of statistical data from this survey represent important information for working out and substantiating various planned measures to enhance the people's well-being, and for calculating the amount of funds necessary to implement them. Data from the 1981 survey, for example, were used for working out measures to enhance the people's well-being during the 11th Five-Year Plan and to prepare the 22 January 1981 decree of the CPSU Central Committee and the USSR Council of Ministers, "On Measures to Increase State Assistance to Families with Children" and other documents. Each regular survey is another step in the improvement of statistical monitoring programs for studying aspects of the people's well-being. Although they retain the basic sections and indicators, all of the survey programs have certain distinctions stemming from the specific economic and social tasks of the given period.

The survey programs for September, 1984, and the work performed with the data were the collective labor of workers of the USSR Central Statistical Administration, the USSR Gosplan, the USSR State Committee for Labor and Social Problems, the USSR Ministry of Finance, the AUCCTU and a number of scientific research institutes. They are closely interlinked with programs for performing selective social and demographic surveys of the population in 1985.

The questionnaire for the selective survey of the incomes of blue- and white-collar workers and kolkhoz workers covers the following information on the family's standard of living: the makeup of the family with respect to sex, age, marital status, education, place of work and place of study; the family's total income and income broken down by source; the personal plot; the family's housing conditions and the degree to which the housing space occupied is provided with comfort and conveniences; the degree to which the family is provided with cultural and personal service items, and others.

Unlike the 1981 program, the section "The Family and Its Income" on the questionnaire isolates data on aid for the care of children to the age of 1 year, assistance at the birth of a child, money received from cottage industry and from rendering services to individual citizens, whether the children attend preschool facilities, and marital status; the section "The Family's Housing Conditions" now covers information on those families who, in addition to their basic residence, also have a house (or share a house) in a rural area, a summer dacha, a garden cottage or temporary premises set up for living at an orchard and garden plot, or a garage; the section "The Personal Plot" now covers the ownership of ducks and geese; the section "Availability of Cultural and Personal Service Items" has been enlarged somewhat, and a number of indicators have been eliminated.

Incomes, their level, form and structure are an extremely important indicator of a family's standard of living. The 1984 program, like all similar previous surveys, covers a lot of information on the population's incomes broken down by individual sources: wages, income from public consumption funds--pensions, stipends, assistance, subsidies for children attending preschool facilities, subsidized trips to senatoria and rest centers, and others.

Despite the trend in which the portion of the combined income obtained from personal plots is dropping, with an increase in the portion obtained from public forms of economic activities, these incomes are of substantial importance to the families of kolkhoz workers, blue- and white-collar workers residing in a rural area. A special section has therefore been provided for them in the survey program. This was also due to the fact that various measures to enhance the standard of living for families are based on the average per capita combined income, of which income from the personal plot is a part. With respect to obtaining information on incomes from personal plots, the selective survey of 1984 is the same as previous ones. The size of the parcel of land planted to a vegetable garden or an orchard or to individual crops, and the total number of livestock by types are multiplied by the yield standards for 1/100th of a hectare of the given crops and by one head of the individual types of livestock, which are calculated from information provided by the permanent selective surveys of family budgets.

The procedure for filling out the questionnaire (for all of the sections and questions) is defined by the "Instructions for Survey Takers for Conducting the One-Time Selective Survey of the Incomes of Blue- and White-Collar Workers and Kolkhoz Workers and the Survey of Young Families for September of 1984."

In keeping with the tasks involved in the selective survey, the electronic computer data processing program provides for extensive employment of the system of grouping families according to a number of socioeconomic characteristics. Selection of the grouping characteristics was based primarily on the fact that the data for processing must describe the level of the incomes and their sources for the social groups of the population by national territory and the formation of a family's income, regardless of its composition; the distribution of families according to level of average per capita income; the distribution of employed members of the families of blue- and white-collar workers--at full wages--and able-bodied kolkhoz workers which worked the entire month of September, based on the level of wages paid on the kolkhoz; the composition of families by sex, age and employment status of family members; the distribution of families with children of different ages according to the average per capita combined income; the size of the subsidiary plot of families with different per capita combined income; the distribution of families according to type of housing occupied and amount of general (useful) and living area per family member, and others.

The processing program provides for obtaining tables from electronic computers containing data which makes it possible to give a detailed description of the level of well-being of families for social groups of the population and types of families according to their composition.

The program provides for the processing of all the survey data for republics, krays, oblasts, economic regions and zones. From 200 to 800 computer tables will be obtained for each of these breakdowns. Most of these tables will be compiled for urban and rural areas, which is important for analyzing the degree to which the standard of living of these groups of the population is being equalized.

The selective income survey will cover 310,000 families, including 242,000 families of blue- and white-collar workers, 56,000 families of kolkhoz workers

and 12,000 families of pensioners with no able-bodied members. It is calculated that a sampling of this size makes it possible to obtain adequately representative information not just for the nation as a whole, but also for the oblasts, krays and republics.

Families are selected for the survey by a two-stage method out of typical groups in a general aggregate. The enterprises, establishments and kolkhozes are selected in the first stage, and the families of blue- and white-collar workers and kolkhoz workers in which the survey is to be conducted are selected in the second.

The reliability of the information obtained in the survey depends to a considerable degree upon the correct composition of the aggregate sampled, since even when the survey is well organized and reliable information is obtained in the families, the data will not reflect reality if the families selected are not representative.

A great deal of work is required for making up the sampling aggregate of both the enterprises, establishments and kolkhozes and the families of the blue- and white-collar workers and kolkhoz workers, and a thorough study of the appropriate information, which is sent to statistical agencies.

A unified computer system is used for selecting the industrial enterprises for the survey, the same as in 1981. The EOI [electronic data processing] system for processing data from annual labor reports on Form No. 9 will be used for this purpose.

The main job of statistical agencies in the survey is to assure that the data are reliable and complete. This is specially important in the case of small samplings, since the results of the selective survey are ordinarily accepted as applicable to the general aggregate--in this case, to the total number of families or to the entire population.

The completeness and reliability of the information gathered are insured by providing the survey takers with the most thorough preparation in all questions covered in the families surveyed.

The survey takers must meet with the blue- and white-collar workers, kolkhoz workers and pensioners selected for the survey in order to establish preliminary contact with the families. The work performed by the survey takers on the first day of the survey must be verified especially carefully. The RIVS(Ts) [rayon computer information systems (central)], the GIVS(Ts) [city computer information systems (central)] and the rayon inspectorates for state statistics must receive the first questionnaires, verify them in accordance with the instructions and report any deficiences to all the survey takers during the first days of the survey.

Mass explanatory work, especially among the families selected, will contribute much to the successful performance of the survey.

The rayon computer information systems (central), city computer information systems (central) and inspectorates for state statistics are assigned a leading

place in the survey as the performers of important phases of the work. Together with the statistical administrations, they will select the survey takers, instruct them, make the selection of blue- and white-collar workers and kolkhoz workers, monitor the work of the survey takers and the immediate receipt of the questionnaires, and check the latter. Because of this, the workers in these bodies must study all of the program and methodological documents for the survey and consider previous experience in conducting similar surveys.

The reliability of the information collected must be verified no less strictly at the stage of machine processing of the data. The processing of the information from the selective survey will be performed centrally in accordance with the organizational plan and schedule for the development and adoption of the system and with the "Main Principles for Organizing the Processing of Infomation From the One-Time Selective Survey of the Incomes of Blue- and White-Collar Workers and Kolkhoz Workers," which have been sent to the statistical administrations. Technical carriers of the informations will be prepared at multiple-user and republic computer centers. The statistical agencies must therefore insure that the data on the questionnaires are thoroughly verified and enciphered in accordance with the instructions covering this matter. A thorough logical control program has been prepared for verifying the information on the questionnaires. Questionnaires which contain errors or which are logically inconsistent hold up the processing, of course. Our experience with past surveys indicates that this is the most complex and labor-consuming stage in the processing of the information.

The Budgetary Statistics Administration has prepared a description of the task for the electronic processing of the survey information. The Soyuzmashinform [All-Union Machine Information Processing Center?] of the USSR Central Statistical Administration will develop the machine programs for this system. An operational test, as well as the refining and distribution of the software and instructions must be performed at multiple-user computer centers under the organizational plan for the development and adoption of the system. The system's software will be developed simultaneously for the centralized processing of information from the survey in the Soyuzmashinform of the USSR Central Statistical Administration.

The statistical administrations and the central statistical administrations of Union republics must insure that the data from the selective survey questionnaires are verified and coded by 13 November of this year, and submit the questionnaires to the rayon computer centers and the computer centers of the statistical administrations, where the technical carriers of the information will be set up. The Soyuzmashinform will process the information from the selective survey in three stages prior to June of 1985.

Information on young families will be collected in addition to the information obtained from families on the questionnaire. The individuals surveyed will fill out the forms themselves. The objective of the survey is to identify the factors influencing the formation and development of the family. Out of 310,000 families whose incomes are to be surveyed, this study will cover all married couples in which one or both of the spouses are no older than 35. This includes young couples living on their own and those residing with parents or relatives.

The questionnaires are given to the survey takers at the stage when they first become acquainted with the families in which the income survey is to be conducted and are collected when the survey takers visit the family to fill out the questionnaire.

Success in the conduct of such a large selective survey will depend upon precise organization of the work at all the stages. All of the work involved in preparing for and conducting it is being carried out in accordance with the calendar plan and the organizational plan and schedule for developing and adopting the EOI system. The central statistical administrations of Union republics and the statistical administrations are working out their own calendar plans and coordinating them with the subdivisions which will take part in the selective survey. The Central Statistical Administration of the USSR plans to send out specialists to help prepare for and conduct the survey, just as in previous surveys.

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